THE JOURNAL
OF THE
ROYAL UNITED SERVICE INSTITUTION.

VOL. L. JANUARY, 1906. No. 335.

[*Authors alone are responsible for the contents of their respective Papers.*]

SECRETARY'S NOTES.

1. The following officers joined the Institution during the month of December :—

Major E. Leigh, Hampshire Regiment.
Lieutenant A. C. Dewar, R.N. (Gold Medallist R.U.S.I.)
Captain H. H. G. Hyslop, Argyll and Sutherland Highlanders.
Lieutenant J. E. Turner, R.E.
Captain W. T. Gaisford, Seaforth Highlanders.
Captain J. H. Hall, Middlesex Regiment.
Captain F. Lewis, Leicestershire Regiment.
Sub-Lieutenant G. W. S. Seton, R.N.
Captain G. N. Wyatt, R.F.A.
Lieut.-Colonel H. G. H. Kennard, 5th Dragoon Guards.
Captain H. Rowan-Robinson, R.G.A.
Second Lieutenant J. M. Prower, Hampshire Regiment.
Lieutenant W. E. Nicol, Grenadier Guards.
Captain T. E. L. Hill Whitson, 14th Hussars.
Lieutenant G. M. Ellison, Lincolnshire Regiment.
Lieut.-Colonel Hon. R. C. G. Carington, C.V.O., D.S.O., 6th Australian Light Horse.
Captain E. C. Scott, 4th Battalion Durham Light Infantry.
Second Lieutenant E. F. E. Seymour, Royal Dublin Fusiliers.
Captain O. H. Lawson, Indian Army.
Captain E. de H. Smith, R.A.
Captain P. S. Allan, Gordon Highlanders.
A general officer also joined, but wished his name kept out of this list.

(No officer of the Royal Naval Reserve, Imperial Yeomanry, or Volunteers joined the Institution last month.)

2. The following vacancies occur on the Council, to be filled at the anniversary meeting on Tuesday, 6th March, at 4 p.m. :—

1 Naval, 3 Regular Army, 1 Militia, 1 Imperial Yeomanry, 1 Royal Naval Reserve, 2 Volunteers.

3. Officers, when corresponding with the Staff, are requested to write their signatures clearly, or to print them as is done in official correspondence in India, as it is impossible in many cases to decipher them. Several letters have also been received unsigned.

4. The following additions have been made to the Museum :—

Orders of Lieut.-General Sir John Moore, K.B. :—

a. Gold Collar and Badge of the Most Honourable Order of the Bath (K.B.), conferred on 14th November, 1804.
b. Star of the Most Honourable Order of the Bath (K.B.).
c. Diamond Star, representing that of the Order of the Bath, purchased by Sir John Moore's officers for 350 guineas and presented to him in 1804.
d. Riband of the Most Honourable Order of the Bath (K.B.), worn by Sir John Moore.

Lent by Miss Carrick Moore (*his grand-niece*).

Sir John Moore was born in Glasgow on 13th November, 1761, the son of John Moore, M.D. Admiral Sir Graham Moore and James Carrick Moore, Surgeon of the 2nd Life Guards, were his younger brothers. He was educated at Glasgow and Geneva, and entered the Army in 1776, at the age of 15, as an Ensign in the 51st Foot, but subsequently transferred to the 82nd Regiment, with which he served in America. Having rejoined the 51st, he served with distinction in the

Corsican campaign, and later in the West Indies, during the Irish Rebellion in 1798, and under Sir Ralph Abercromby in Holland and Egypt. In September, 1808, he became Commander-in-Chief of the troops in Spain. While proceeding from Portugal to the relief of Madrid his retreat was cut off, and he was forced to retire under great difficulties upon Coruña. During an attack made by the French during the embarkation of the troops, which was successfully repulsed, Moore received a fatal wound, and was buried at Coruña.

e. General Officer's Gold Medal for the Battle of Coruña, awarded to Lieut.-General Sir John Moore, K.B. (*post mortem*). *Lent by Miss Carrick Moore.*

The medal bears on the obverse, Britannia, wearing a helmet and seated on the globe, her right hand extended holding a wreath of laurel; in her left is a palm branch. To her right is the lion of England; and on the left a round shield charged with the crosses of the Union banner. The reverse bears a wreath of laurel surrounding "Coruña" and the date of the battle. On the rim is engraved:—"Lieutenant-General Sir John Moore, K.B."

The battle of Coruña was fought on the 16th January, 1809, between 14,000 British, under Sir John Moore, and 20,000 French, under Soult, who was endeavouring to prevent the British from embarking. The French attacks were uniformly repulsed, and the troops safely embarked, with a loss of about 800, including Sir John Moore. The French lost about 2,000.

Orders of Admiral Sir Graham Moore, G.C.B., G.C.M.G. :—

f. Star of the Most Honourable Order of the Bath (K.C.B.), conferred on 2nd January, 1815.

g. Badge of the Most Honourable Order of the Bath (K.C.B.), conferred on 2nd January, 1815.

h. Star of the Most Honourable Order of the Bath (G.C.B.), conferred on 11th March, 1836.

i. Star of the Most Distinguished Order of Saint Michael and Saint George (G.C.M.G.), conferred on 28th September, 1820.

j. Riband of the Most Distinguished Order of Saint Michael and Saint George (G.C.M.G.)

k. Collar of the Most Distinguished Order of Saint Michael and Saint George (G.C.M.G.).

Lent by Miss Carrick Moore (his grand-niece).

Admiral Sir Graham Moore, younger brother of Lieut.-General Sir John Moore, was born in 1764, and entered the Navy in 1777. He served under Lord Howe in 1782 at the relief of Gibraltar. In 1798 he was attached to the squadron on the coast of Ireland, under Sir John Borlase Warren, and assisted in the defeat of the French squadron on 12th October. In September, 1804, when in command of four frigates, he captured four Spanish frigates off Cadiz, laden with treasure of the value of three and a half million dollars. In 1807, after hoisting a broad pennant and escorting the Royal Family of Portugal to the Brazils, he was invested with the Order of the Tower and Sword. In the autumn of 1809 Moore served under Sir Richard Strachan in the Walcheren Expedition. He was promoted Rear-Admiral on 12th August, 1812, and for a short time commanded in the Baltic. In 1820 he was Commander-in-Chief in the Mediterranean. He was promoted Admiral in 1837, and after holding the appointment of Commander-in-Chief at Plymouth, died at Cobham in 1843.

l. Small metal case containing tools for the Chassepot rifle, picked up on the battle-field of Sedan, 1870. Given by Captain Charles Slack.

5. The attention of members is called to the necessity of, when returning books to the Library, enclosing their card with them, as, owing to there frequently being many copies of the same work issued to members, it is otherwise impossible to tell from whom they come, and grave difficulties and inconvenience consequently arise.

6. The attention of members is also called to the necessity for communicating any change of address or of rank to the Secretary. It is also essential that such changes should be made in writing. If such changes are not notified, members will themselves be responsible if their JOURNALS fail to reach them through being wrongly addressed.

THOUGHTS ON THE ORGANISATION OF THE BRITISH ARMY.

By General Sir RICHARD HARRISON,[1] *G.C.B., C.M.G.,*
Colonel Commandant Royal Engineers.

Thursday, 19th October, 1905.

The PARLIAMENTARY UNDER-SECRETARY OF STATE FOR WAR (the Earl of DONOUGHMORE) in the Chair.

CONTENTS.

	Page
Introduction	3
How to get Men	4
Personal Equipment	7
Organisation in Units	9
Distribution in Time of Peace	12
Training	16
Mobilisation	23
Summary of Recommendations	27

Introduction.

MOST people think that our Army methods are open to improvement; but, when the question arises how best to effect a change, the differences of opinion that arise on every side are somewhat bewildering.

Some years' consideration of the subject leads me to the conclusion that these differences are chiefly caused by the various aspects from which the problem is approached. To judge of it properly, a comprehensive view must be taken. And so in the following lecture I intend to formulate a complete scheme—maybe a skeleton, but one in which no bone will be left out.

I will treat the subject under the following heads:—

1. How to get men;
2. How best to equip them;
3. How to organise them in units;
4. How to distribute them in time of peace;
5. How to train them;
6. And how to mobilise, or, in other words, put them in a condition to take the field in time of war.

[1] Written originally, by request, as an article for the *War Office Journal*, in the autumn of 1904.

How to Get Men.

Speaking generally, there are only two ways, viz., some form of conscription, or voluntary enlistment.

Much has been written and much said on this subject. There are advantages and disadvantages in both systems; but it may be taken for granted that, as long as there are any good advocates for the system with which they are familiar, the voters of this country will not change it for the one adopted abroad. So I shall only take up the subject of voluntary enlistment, and consider how it can be worked with the best chance of success.

Assuming that we retain the Regulars, the Militia, the Yeomanry and the Volunteers, we must so treat them that each shall tap certain classes of the population, and that they don't clash one with another.

The Regular Service takes the young men who want to see something of the world, or are tired of their own homes, or of the immediate prospect presented to them in their own town or village. They are not prepared to devote their whole life to the Army, at all events until they have had a trial of it. But they require a wage above what they can earn in civil life. Then, too, it will be an additional inducement to them to join the ranks if there is a prospect of increased pay for increased proficiency, and a good chance of getting employment when they return to civil life.

The Militia Service takes men who have started in some occupation, but can arrange to get away for certain periods of the year. As a rule they like the change; and, as long as service does not destroy their means of livelihood, and does not interfere with their power to marry if they so wish, they will join, in limited numbers, for an amount of pay that will meet their expenses. More would join if the pay were increased, and if their military employment were more considerately worked than it is now; that is to say, if their training were carried out at times when they could be spared from their permanent civil work. In this connection it may be remarked that by taking men for recruit training when they can best be spared—usually in the winter—not only could more good men be got for this branch of the Army, but the labour market would be helped all round. Employers would benefit as well as those employed, and the whole country would gain.

The Volunteer and the Yeomanry Services take men who would not otherwise join the Army voluntarily. If certain conditions of physique and knowledge were laid down for their recruits, and if their training was more carefully arranged than is the case at present, they might easily be made the finest Force in the world. Nearly all of them are employed, and consequently they can only come out for training in the evenings, or when they can get a holiday. If they are to be kept up in an efficient condition, it is absolutely necessary that all the officers should pass a special examination for each rank, and that officers and men should receive sufficient pay to cover their expenses.

Now the Regulars are required to guard our over-sea possessions—notably India—and the coaling stations of our Fleet; while the Militia, the Yeomanry, and the Volunteers are required primarily for Home Defence, but also to support the Regulars should the Empire ever be in danger. The numbers that might be required in time of war can only be assumed; but an assumption of this sort is necessary

before anyone can work out properly what force must be maintained in peace, in the ranks, and in the Reserve, and how that peace force can be transformed into a war one.

I will deal later on with this part of the subject under the headings Distribution and Mobilisation. Meantime, let us consider what should be the conditions of service for each one of the branches into which the British Army is divided; that is to say, what should the Government offer them, and what should they be expected to do in return. While on this subject, I wish to say that, *for their own sakes*, every officer and soldier should have a small parchment book which should contain the conditions of his service, and also a record made up from time to time how that service has been performed. This should be compared occasionally with a duplicate kept at the depôt at home.

The conditions for recruits for the Regular Army should, I think, be as follows:—Enlistment between the ages of 18 and 20 for a period of eight years with the colours and four years in the Reserve, but with powers of purchase at two and four years. The pay should be sufficient to induce these young men to enlist, and there should be an increase of 2d. a day with a badge after one year, and again after two years, and again after four years, making 6d. and three badges in all. The recruits' training (which will be described later on) should be carried out usually at special depôts.

The normal period for a recruit's course at a depôt should be two years, which is necessary if he enlists at 18 and is joining a battalion in India, because he is not allowed to serve in that country until he is 20.

Enlistment should only be allowed when applicants pass a certain physical and mental test, and produce a certificate of birth and one of education. The latter will eventually include the physical course which every boy will have to go through in an elementary school. The increase of pay and the badge should only be given for proved qualifications.

From the above it will be seen that I contemplate three classes of soldiers; viz.: the recruit (or 3rd class soldier), the trained soldier (2nd class), and the 1st class soldier.

The first badge should be given to the recruit, as an encouragement, after a year's satisfactory service, and on passing a theoretical and practical examination. The second badge should be given on passing the examination required by a 2nd class or trained soldier; and the third badge on passing as a 1st class soldier. What they would be required to know in each class will be dealt with under the head of Training.

Service abroad should not, as a rule, be longer than 5 years, with an interval of not less than 3 years at home.

Six months before the completion of his 8 years' service a man should be allowed to say if he wishes to continue in the ranks. If he is a good soldier, and if there are vacancies, he should be allowed to do so for a second period of 8 years, of which not more than 5 should be abroad. After this, he might have the option of being employed either in the Home Army, or in the General Service Army, until he obtains a pension. This, I think, should be for 6 years in the latter, making 22 in all, or for 12 years in the former, making 28 in all. Should he not wish to continue in the ranks after 8 years he would complete his 12 years in the Reserve.

Officers for the Regulars should all, I think, be obtained from Military Colleges, or from Universities.

The conditions for recruits for the Militia should be enlistment between the ages of 19 and 24, for a period of 3 years in the ranks and 5 years in a First Reserve. An option might be given to serve on for four years more in a Second Reserve.

The Militia should be strictly localised, as they are now, and their Infantry should take charge of the county depôts. At each depôt, besides the work incidental to enlistment, and records, and storing military equipment, there should be a thoroughly up to date military school for recruits, which I will describe more at length later on. Here the Militia recruits should be trained for a period of four to six months during the winter; and in the summer of the second year they should join their battalion in a camp of exercise. The battalion should be out every year for from 4 to 6 weeks, made up of second and third year recruits and of the permanent staff.

Militia Reserves, whether of the first or second quota, should come out once in three years and train with their battalions.

Officers for the Militia should go through the same training as recruits for two years, and then be subject to an examination, after which they might be posted as second lieutenants. All subsequent promotion should be subject to practical and theoretical examinations. Schools for Militia, Yeomanry, and Volunteer officers, and non-commissioned officers, should be provided at our principal military stations to assist them in passing the required tests.

Under certain conditions officers of Regulars should be allowed to join the Militia, and qualify for a pension.

The conditions for Yeomanry might, I think, be left as they are. They have been very much improved since the South African War.

The conditions for Volunteers require careful consideration. We need not go into their past history. We know how the movement started, and to what dimensions it has grown, and we have a vivid recollection what it did for us in the early days of the Boer War. Surely we ought to do our best to preserve an organisation that has restored to our country the popularity of the military profession, that has done so much to keep up military enthusiasm, that has been ready to take a foremost place in the defence of the Empire, and has in the hour of need provided *personnel* for the very forefront of the battle. How can we do so? I think as follows.

First by ascertaining our home needs, which can be done by making a scheme of defence for the British Isles. Then by calculating what number of efficient Volunteers of all arms are required, in addition to Militia and Yeomanry, to make that scheme complete; and, when we have done this, by grouping the various corps together in so-called battalions and brigades, taking care that their strength shall be equal to three times the numbers actually required by the scheme of defence. Besides this, every corps should maintain a service section ready to reinforce, in time of war, the Regular unit to which it is affiliated.

It is in the power of Army government to impose whatever conditions it chooses on recruits enlisting into the Volunteers, and to lay down what shall be their pay and what their allowances under various circumstances. But it is obvious that in proportion as it requires efficiency, it must be ready to meet all the legitimate costs of the Force, so that officers and men shall not be required to put

their hands into their pockets. It is enough if the Volunteers give their spare time and the best of their energy to military work—they should not be asked to give their savings too.

It may be remarked that I have fixed 18 to 20 as the age for enlistment into the Regulars, because this is the period when the boy is becoming a man, when he expects the boy's wage to be increased, and when he is more or less doubtful what profession he will take up; and I have fixed 19 to 24 as the age for enlistment into the Militia so that it may not interfere with enlistment into the Regulars. The Militiaman, as I have already stated, can have civil employment concurrently with his military training.

I have not proposed any changes in the terms of enlistment for Yeomanry and Volunteers because they don't conflict with Regulars.

Personal Equipment.

Having stated briefly how I think it may be possible under a voluntary system to obtain men for the British Army, I turn to the next question, how best to equip them.

Army authorities in England have arrived at the conclusion that a soldier of the Empire requires two distinct dresses, a show dress and a working dress. The show dress is, as a rule, of the traditional scarlet colour, and the pattern follows the fashion of the day. The service dress is intended for use all over the world. It is of the khaki or mud colour, that has, in one shade or another, been used by our soldiers in all the wars we have undertaken since the Indian Mutiny.

I am not going to involve this lecture in questions of dress pattern; nor will I deal with the show dress except to remark, in passing, that it must not be treated as a matter of no importance, because it is a strong factor in the recruiting question. But I will pass at once to the soldier's war kit, assuming that the service dress is of the present approved pattern.

The articles in possession of a soldier in time of war can be divided into three categories, viz.:

1st, Those that should accompany him on the march, being carried either on his own or his horse's back, or in transport which is always close at hand;—

2nd, Those that can be left at an advanced depôt or on the line of communications, to be drawn on from to time as required;—

3rd, Those that can be left at a permanent base, to be sent for when troops go into standing camps or cantonments.

In regard to the first, the more a man, or horse, carries on his back, the less there will be to be brought along by transport. But the man must not be so overburdened that he cannot march with ease, and so a mean must be struck. But it must never be forgotten that, given sufficient strength to last through an ordinary campaign, and given adaptability to the purpose for which it is provided, every article of a soldier's equipment should be as light as possible (See Appendix I.)

I know that many officers in the war in South Africa, and also in previous ones, experienced great difficulties in campaigning because of the unsuitability of various articles of our dress and equipment for war purposes, and had to resort to all sorts of expedients to lighten the loads on men and horses.

And I know that, for many years, committees of practical officers have investigated and reported on the subject.

Certainly here and there improvements have been made, such as lightening the saddle, as recommended by Sir Frederick Fitz Wygram, or improving the general service wagon, as advised by Sir Redvers Buller. But there is still much to do.

Before going into details, I must observe that a soldier ought to be so familiar with every article of his war kit, that it should be like a part of himself. Now the only way to effect this is to familiarise him with their use, and let him constantly carry them in time of peace. The old system of "marching order" for Guards had a very real meaning. It was intended to secure that everything essential to a soldier's efficiency was existent and in good order, and that the carrying arrangements fitted properly, so that men might march out of any guard room straight on to the field of battle.

And now a few words in regard to details of personal equipment. I will not touch on mounted troops, because the question in their case has been more carefully gone into by experts than has been done for dismounted ones; and a committee composed of any good cavalry, artillery, or Army Service Corps officers, who have served in recent wars, could soon settle any questions that may still be pending.

Take an infantry soldier as representing the dismounted men of our Army. What is his marching order kit? that is to say, what are the articles that he must take with him when he goes to fight? and how does he carry them?

First there are the clothes he wears, which should consist of a suit of khaki, a helmet, a flannel shirt, a pair of drawers, a pair of socks, boots, etc. Next there are his arms and ammunition, and lastly there are the few indispensable articles that he requires at hand to keep him in health and strength during a campaign, assuming that he may frequently be separated from the baggage train, and have to depend on his own resources.

The infantry soldier's arms consist of a rifle, which he carries in his hand, and a bayonet, which is fastened to his waist-belt.

A rifle is no good without ammunition, and, notwithstanding the most careful arrangements for the supply of rounds from transport accompanying the troops, and trains following behind, a considerable amount has to be carried by the man himself.

Besides ammunition, a small quantity of food has also to be carried by the soldier; usually a water-bottle with tea in it, a reserve ration, and at least enough bread and meat to last him through the day, until the ordinary ration is issued at the end of the march or the battle. Meat and groceries are usually carried in the canteen, and bread or biscuit in the haversack. The other indispensable articles are an overcoat,[1] a holdall, a towel, two foot bandages, a wound bandage, a pocket ledger, a clasp knife, a woollen nightcap, and a pot of grease. Besides these, there are the necessary belts and pouches, called accoutrements, to enable the whole kit to be easily borne.

In addition to what is carried by the soldier, the baggage train, which accompanies the troops, should have in it a small valise for each man, with a carefully selected change of clothes, and also spare ammu-

[1] See Appendix II.

nition, one or two days' rations, intrenching tools, and tents or blankets if specially ordered.

The most important articles in a soldier's kit, next to his arms, are, I think, his accoutrements, because on their efficiency for the purpose for which they are intended depend in a great measure the man's comfort, and his power to march, and endure privations. For some years an excellent committee, under General Eyre, worked at these accoutrements, and produced what used to be known as the Valise Equipment. This is out of date now, because it contemplated carrying a number of articles which have been obliged to be thrust aside in favour of ammunition. But the principles which guided the committee in adopting this equipment—principles which were unfortunately overlooked by those who invented most of the equipments of a later date—remain good to the present day. They consisted mainly in so distributing the load, that it should be thrown on the centre of gravity of the soldier when marching. This was done by a combination of yoke and brace, so arranged that the weights, more or less evenly distributed before and behind, were carried on the shoulders, and no tight strap was required anywhere to keep them in position.

Whatever means of carriage may be adopted in the future, that is to say, whether the articles that have to be carried by the soldier are placed on a bandolier or suspended by braces, the principles alluded to above should be borne in mind.

I will not go into further detail. It is sufficient for my present purpose if I have shown that the really essential matter in fitting out a soldier is to provide him with an equipment suitable for war; and that the accoutrements given to him to enable him to carry such articles as are necessary should be carefully and scientifically made; and lastly that, in order to get thoroughly at home with his war kit, he should always have it in his possession, and carry it in all marching drills and manœuvres.

Organisation in Units.

Having enlisted a certain number of men, and provided them with the necessary equipment to enable them to do duty as soldiers, the next process is to group them together in bodies such as troops and companies.

The business of the construction of these bodies, and then of putting them together so that the various "arms" may be properly proportioned, is called Organisation.

It will not, I think, be denied that organisation should follow tactics. In other words, that the units which make up an army should be so organised as to facilitate to the utmost extent possible the employment of modern tactics.

The object of all tactics is to get the greatest advantage out of the arms in use, which, in these days, are chiefly the long-range rapidly worked fire-arm, backed up by the bayonet in the hands of infantry and the sword or lance in the hands of cavalry.

The practical result of modern tactics is, that troops can defend a position with fewer men in the front line than formerly. This means a greater extension of the line of battle, the necessity of more careful preparation for attack, longer and more elaborate flank movements, and the frequent employment of night fighting.

To facilitate the employment of these tactical changes, which have been going on ever since the adoption of the breechloader and quickfirer, but never so fast as in the last few years, I don't know that we have made any material changes in our organisation.

I would ask, does our existing organisation admit of sufficient decentralisation when local circumstances require it? Does it provide for all the wants of the men in a long-drawn-out modern battle? I don't think it does; and, if I am right, surely every endeavour should be made in time of peace to carry out any required improvement.

It is frequently stated by theorists that individual responsibility is required to enable modern tactics to be used with effect. This is all very well, but it is only practicable if every individual soldier put into the field can be fully trained in the art of war; and it is doubtful if this can be done by any nation even at the commencement of a campaign, still less when the ravages of war take effect, and the ranks have to be filled up by more or less untrained reinforcements.

I can't help thinking that, while endeavouring to train every man as fully as possible, we should at the same time so organise our forces as to be ready to meet all circumstances. So I propose to make the basis of our organisation the group of seven, that is to say, a leader and three double sentries. The leader should have all the training of a scout, and should be a junior non-commissioned officer or, at all events, a first-class soldier.

Taking first the infantry; four groups under a sergeant would make a section of 29, and four sections besides 1 captain, 1 lieutenant, and 2 soldier servants would make a company of 120.

Two of these companies should form a double-company under a major, who should be mounted. This would be the unit for training in peace, and also for fighting in war.

Four double-companies, together with a headquarter detachment, would form a battalion, and four battalions would form a brigade.

Under this organisation every officer and non-commissioned officer would have in the field a distinct responsibility. The brigadier, having received the instructions of the divisional general in regard to the situation, would make all the arrangements for the supply of his command, and would dispose of his four battalions for attack or defence according to circumstances. Similarly, the lieut.-colonel of a battalion would deal with his headquarter detachment and his four double-companies—the fighting units.

The actual fighting of infantry would be under the major, who, having received the instructions of the lieut.-colonel, and made himself acquainted as far as possible with the situation, would dispose of his command to the best advantage. His success or failure would then depend in a great measure on the training that he had given his officers and men in time of peace.

The organisation of cavalry would be similar to that of infantry. Four squadrons, under majors, would form a regiment, and three regiments would form a brigade.

In artillery, three batteries of field artillery or two batteries of horse artillery would form a brigade division. A battery is commanded by a major and a brigade division by a lieut.-colonel.

In engineers, a field company, under a major, is the present unit to accompany infantry. But the experience of the South African War seems to indicate that it is too small for the work it has to do, and

that a proportion of the men should be mounted. Its organisation, however, can best be considered in connection with the division.

The division is the unit that combines all arms, and is thus capable of carrying out, alone, or in company with others, all the phases of a modern battle.

As at present constituted, a British infantry division consists of

2 infantry brigades (8 battalions);
A squadron of cavalry ($\frac{1}{4}$ regiment);
2 brigade divisions of artillery (6 batteries);
A field company of engineers.
The total (approximately) of bayonets is 8,000.

A British army corps consists of 3 infantry divisions and certain corps troops, not included in divisions, such as more artillery; pontoon, telegraph, and balloon units of engineers; ammunition and tool parks; army signallers; bakery columns; extra medical units; an extra battalion of infantry; and a squadron of cavalry, etc.

Now there is no absolute need to have either division or army corps organised as above. Many think that, for the requirements of Great Britain, which are a large Navy and a small Army, the division should be somewhat larger and more complete, and the army corps should be simply an aggregation of divisions;—say three infantry divisions and a cavalry division, with line of communication troops according to the estimated length of country to be held behind the moving army.

But, apart from this, it seems to me that the division is not at present organised to make the fullest possible use of modern tactics.

I alluded above to the changes caused in tactics by the far-reaching, rapidly-working fire-arm of modern days; and stated how, while the line of battle is extended, there is, at the same time, more need than ever of flanking movements. Now the best way, if not the only one of carrying out such movements is to have a portion of the infantry with every division mounted.

Again, I have pointed out that more careful preparation than ever is required previous to an attack; and one of the ways to carry out such preparation is to make a reconnaissance with mounted men, and to furnish a report on the ground to be passed over by the attacking forces, as well as on the general dispositions of the enemy for defence. This reconnaissance and report must be made by men who are intimately associated with and working alongside of the attacking infantry. It could, I think, be best done by mounted scouts belonging to the battalions.

Lastly, I said that night fighting in modern war is as essential as ever. Now this branch of the military art requires frequent practice beforehand, and most careful arrangement previous to execution; and I believe it might be made more reliable by associating with the troops detailed to carry it out, a force of engineers. If this were the custom, these latter soldiers would make a *spécialité* of the business, and would bring into play their scientific instruments, such as telegraph lines to keep up communication, guide posts and illuminated paint at certain points on the line of approach, and searchlights where considered useful to disclose what the enemy was doing or to bewilder them with their glare.

So I propose that every double-company of infantry shall have, as part of its organisation, 4 scouts; and that there shall also be 4 in

the headquarter detachment, one of which would be the sergeant in command. This would make 20 scouts in a battalion. They would be trained in time of peace, but mounted only on mobilisation for war.

I propose also that, besides the 2 infantry brigades now detailed to a division of infantry, there should be a third brigade of two or three battalions of mounted infantry. The cavalry squadron could then be dispensed with. The mounted infantry assigned to this work need only have a few horses in peace time, sufficient for training purposes. They would, of course, be fully horsed on mobilisation for war.

And finally I propose that the engineer organisation for an infantry division should be a battalion of four companies. The lieut.-colonel commanding the battalion should be the commanding Royal Engineer of the division. The companies would be commanded by majors. A proportion of each company should be mounted, so that they might get rapidly from one place to another, to carry out any special work. Pontoons to a limited extent, and telegraphs, and electric lights, and balloons should be provided with the battalion. Reserves of these and of intrenching tools and other special engineer tools should be carried in field parks on the lines of communication; and the units now detailed to army corps might be done away with. Arrangements should be made to attach a corps of local labourers to the engineer battalion, to assist in heavy field works or in the construction of roads, etc.

A division of infantry would then be formed as follows:—

2 infantry brigades;
1 brigade of mounted infantry;
2 brigade divisions of field artillery;
1 battalion of field engineers;
Ammunition columns, transport and supply, and medical columns as required.

A division of cavalry would consist of:—

2 brigades (6 regiments) of cavalry;
2 brigade divisions (4 batteries) of horse artillery;
A mounted company of engineers;
Ammunition columns, transport and supply, and medical columns as required.

An army corps would consist of (as before stated) 2 or 3 infantry divisions and a cavalry division, and of line of communication troops (with the latter there would be batteries of position, for use as required).

It is thought that in working out the above in detail, considerable saving in transport might be effected by cutting out everything not actually required at the front. All *surplus* men and horses should be kept at depôts at or near the base, and all reserve stores in field parks on the lines of communication.

Distribution in Time of Peace.

Troops are required to be maintained by Great Britain in time of peace for the following purposes:—

a. In concert with a local native army to protect India.

b. In concert with such local troops as can be found at each place to garrison the coaling and repairing stations of our Fleet.

c. To form, with or without the Reserves, a field force that can be held available for rapidly conducted expeditions in concert with the Navy.

d. To defend Great Britain, and at the same time be prepared to support the above-mentioned (*c*) field force in any prolonged operations.

To do this we have now, and I think we should be content to have, if they are sufficiently well organised and trained, the Regulars, the Militia, the Yeomanry, and the Volunteers.

The Regulars supply the white troops of all arms that are required for the protection of India, in addition to the native army. A portion of that supply, that is to say, a fixed number of battalions of infantry, regiments of cavalry, and batteries of artillery, made up of trained soldiers of at least two years' service, are distributed throughout that country under the orders of its Government; and a portion, chiefly recruits under instruction, are retained in England for the purpose of furnishing drafts, or sending out reinforcements. The Regulars also supply the white troops required to garrison, in addition to the local forces, the naval coaling and repairing stations abroad, in the same way as in India, except that the men sent out need not be 20 years of age.

They also form the nucleus of a force held available in the British Isles for use, at short notice, in any part of the world where Imperial interests require their presence; at present some of them are in Egypt and some in South Africa.

The Militia, Yeomanry, and Volunteers should form the Home Defence Army. They are also available, under an organisation which I will explain, under the heading of mobilisation, to strengthen and support the Regular Army in any prolonged operations abroad.

In planning the distribution of troops in a country, two points should be considered: first, what will best facilitate their training, and secondly, how will the arrangement answer in time of war. There is another element that comes in when the matter is taken in hand practically: viz., where are the existing barracks? and how far will their situation enable a proper scheme to be elaborated?

Modern training requires rifle ranges, and open commons in the neighbourhood of barracks, and these are not easy to obtain in the close vicinity of towns where many of the old buildings are located.

Again, the requirements of training must be considered under two aspects. There is the training of the recruit, which has to be carried out continuously all the year round, and can be done to a great extent on barrack squares and in gymnasia, and with miniature ranges; and there is the training of the soldier for the field, which requires open spaces and full sized ranges.

The only way in which the question of distribution can be properly considered in Great Britain is to go into it in some detail. But if the matter is to be settled with any finality it is absolutely necessary that principles should be laid down for the guidance of those who have to carry it out.

I will assume certain conditions for the troops that have to be quartered in Great Britain in peace and war, and base my proposals on them. Any change in the conditions will entail a corresponding change in the proposals.

I take it, 1, That a field force of Regular troops sufficient to form at least 6 complete divisions of infantry and 2 of cavalry, with a proper proportion of heavy artillery, and engineers, and line of communication troops for, say, 100 miles of communications, with all the necessary trains, should be kept in constant training for war, so that they could be shipped abroad at any time within a fortnight of an order to move.

2. That a similar field force of Militia, Yeomanry, and Volunteers, should be so organised that they could be rapidly assembled at any time to take the place of the Regulars sent abroad.

3. That the garrisons for all fortified naval bases and coaling and fitting stations at home, and of such commercial harbours as it is considered advisable to fortify, should be carefully arranged, and so organised that they could take up the positions assigned to them in the local schemes of defence at 12 hours' notice.

4. That there should be an organised system of supports to the Naval Coast Guardsmen who keep watch all round our coasts.

5. And that there should be a sufficient balance of all arms to supply drafts for India, and the Colonies, and to send reinforcements wherever likely to be needed; and also to act as a general Imperial Reserve to all forces that may be engaged in war.

How should all these Forces be distributed, and how should they be housed?

Speaking generally, the Regulars are at present put up in existing barracks; the Militia, when embodied, in tents or huts; the Yeomanry in tents or billets; and the Volunteers in tents.

I must say a few words here on the subject of our barracks. The barracks in the United Kingdom, and also abroad, have been built from time to time to suit the military policy of the day. Sometimes they have been located with a view to defence, and, moreover, they have been constructed to meet the requirements of a force that was specially organised for the occasion; sometimes political considerations have settled their whereabouts; sometimes they have formed part of a fortress, and in this case the rooms were made bomb-proof to stand a siege; sometimes they have been built as plainly as possible, to save expense; at other times, architectural effects have been attempted to please local authorities. Ever since they were first inaugurated in England, the changes in occupation and the consequent changes in construction have been incessant; cavalry barracks have had to be converted into infantry depôts, and the stables altered to make indifferent barrack rooms; infantry barracks have had to be used for artillery; artillery barracks for infantry. The numbers to be accommodated have varied still more frequently. Besides all this, modern sanitation, and ideas of comfort, have never ceased in their efforts to bring about improvements, the result varying with the funds placed at disposal for the purpose. Unfortunately, a barrack is not like a carpet bag, which can expand or contract according to what it has to hold. No wonder that military barracks are frequently criticised, and sometimes roundly abused! Of late years, a determined attempt has been made to adopt a barrack policy, which could say what barracks should be done away with, and what should remain. Naturally, this policy is dependent, to a great extent, on how the troops are distributed. I say "to a great extent," for it is not so entirely. Given a good barrack with sufficient exercising ground in the vicinity, and it doesn't very much matter whether the ordinary

routine training carried out in it is under one general or another, especially if the troops it holds can once a year be exercised with others in field-training or manœuvres.

Evidently, the matter can be worked out not only with a due regard to efficiency, but also with a view to economy.

There is no doubt whatever, that if the Scheme of Defence for the British Isles can once for all be settled, and the general distribution of the troops in peace and war be worked out in accordance with it, for the first time in our history the barrack question will be able to be really grappled with, and proper accommodation provided for all our soldiers.

Under the conditions that I have stated above, the Regular troops could, no doubt, all be provided with accommodation in existing barracks, the field force at our camps at Aldershot, Salisbury, and elsewhere, and the depôts and other troops not included in the list for immediate embarkation at our fortresses, and other stations. When these troops are collected together for summer drills or manœuvres, they can be provided with tents or billets.

The auxiliary forces (*i.e.*, the Militia, the Yeomanry, and the Volunteers), when out for training in time of peace, can usually be encamped on one or other of the Government exercising grounds. Occasionally, they can be put up in barracks or huts when any are available. In time of war, these troops, when first called out, should occupy billets or hired buildings at their places of mobilisation. But when the first (Regular) field force has left the country, those of the Auxiliary Forces, which are detailed to take its place, can occupy the barracks. The garrisons of our naval bases, and the troops supporting the coast-guards, should, in time of war, be provided with accommodation arranged for in the local Schemes of Defence. The same, or tents, can be used for peace-training.

A few words seem necessary regarding the way in which Army Government has to be conducted under any distribution of troops at home. For purposes of recruiting, and of the general administration and training of all our Forces, Regular and Auxiliary, the British Isles are divided into military Districts. Scattered about in these Districts are our training grounds, such as Salisbury Plain and Aldershot, and our Military Schools, such as Hythe, Shoeburyness, and Okehampton. Distributed among them also are the various naval bases and repairing stations, such as Portsmouth, Plymouth, Cork, Pembroke Dock, etc. Now, the most economical arrangement for command, and the one best adapted for keeping generals and staff up to the mark would be to organise districts according to the work that has to be done in them. But in any distribution, the requirements of war must not be forgotten. I think that an arrangement, as follows, would best meet all circumstances:—

1. The Eastern District, as at present, under a Major-General.	Grouped under an Inspecting General Officer quartered in London.
2. The South-Eastern District, do. do.	
3. The Home District, including Woolwich do.	
4. The Thames District, do. do.	

1. The Portsmouth District, as at present, under a Major-General. 2. The Salisbury Plain District, do. do. 3. The Aldershot District, do. do.	Grouped under an Inspecting General Officer quartered at Aldershot. N.B.—This officer would be the authority on field matters.
1. The Plymouth District (Counties of Gloucester, Somerset, Devon and Cornwall) under a Major-General. 2. South Wales, under a Brigadier.	Grouped under an Inspecting General Officer quartered at Bristol.
Scotland	Under an Administrative and Inspecting G.O.C. at Edinburgh.
The N.E. District	do. do. at York.
The N.W. District	do. do. at Chester.
1. Belfast District, as at present under a Major-General. 2. Dublin District, do. do. 3. Cork District, do. do.	Grouped under an Inspecting General Officer quartered at Dublin.

Each district would be worked administratively by a major-general. In four cases they would be grouped together under an inspecting-general officer, whose duties would be inspection in its highest form, i.*e.*, inspection with suggestions for improvement, not merely finding fault. All *new* proposals in districts, however, and everything entailing expenditure, not provided for in the Annual Estimates, would be referred to him. His staff need only be a small one; probably a military secretary, and two aides-de-camp, with two clerks would be sufficient.

Training.

I have already said that young men enlisting voluntarily into any branch of the British Army should be subjected to certain tests before they are accepted. There is the physical test, which has always existed, and which certainly should not be lessened when physical drill is taught in all our elementary schools; and there should be a mental test, such as reading, writing, arithmetic, and the history of our country. But, whatever test may be established for entering the Army, the after-training should be considered under two aspects: the training of the "recruit," and the training of the "field-soldier." Whenever possible, the first should be completed before the second is begun. The first can be carried out in depôts, and in buildings that can be provided in towns; the latter where exercising grounds and full-sized ranges are available within reach of the barracks. The importance of this distinction is great, for on it depends the whole system that we adopt for the training of our troops at Home.

It is in order to make sure that our training is continuous and progressive, as well as to assist recruiting, that I have proposed making three classes of soldiers, with different rates of pay, and qualifying badges. The 3rd class would consist of recruits; the 2nd of trained soldiers fit to do ordinary duties; and the 1st of superior soldiers, capable of carrying out the duties of scouts, or of commanding a group under all circumstances in the field. All non-commissioned officers should possess the qualifications required by a 1st class soldier.

I have given a year as the time when a recruit might pass his first examination, and win 2d. a day pay, and his first badge; and I have given two years as the time when he might pass a trained soldier's examination, and win his second badge, and another 2d. because, if he enlists at the usual age (18) he can't go to India for two years. But I would give power to relax the rule in the case of a specially quick young man, or one who enlisted at 19. In such special cases I would allow the first examination to take place in from 6 months to a year, and the second in from one year to two. Similarly I would allow the third examination for a 1st class soldier to be held in special cases between three years and four.

Classes similar to those provided for in the General Service Army should also be established for the Auxiliary Forces, but in their case longer periods of service would be necessary before examinations were held, and the pay to accompany a badge need not be so high.

As a rule, the whole of "recruit training" should be conducted in Military Schools established in depôts or elsewhere. In case where a certain number of recruits had to be trained in regiments or battalions, they should be kept apart, and not be allowed to do ordinary duty until their course was complete.

Eventually, when the system of physical training is adopted as part of the ordinary instruction in elementary Schools in Great Britain, a boy would practically, without knowing it, commence then to learn discipline. This learning he would carry on, at the same time as boy's work, in a Boys' Brigade or the Cadet Corps of a public school; and, when eventually he elected to join one or other of the branches which form the British Army, he would find a recruit's course comparatively easy, and would soon be fit to pass the examination, and win the badges of a trained soldier.

I will not now go into the question of military schools. It is evident that they must be similar to other teaching institutions, and that those who teach must not only know what has got to be learnt, but be able to impart that knowledge to others. But I propose to say a few words in regard to training in battalions and other units, where the 2nd class soldier must be taught theoretically and practically all that is required to enable him to qualify for the 1st class, and where all hands have to keep up the knowledge they have acquired, and maintain themselves in a fit condition for a rapid war.

The question of training, which is really the life of the soldier in time of peace, is so all-important, not only as it affects recruiting, but in its power to produce an efficient Army, and also in its effect on the whole population of the country, that I must say rather more about it than I have said about the other subjects that I have been dealing with.

It must be evident to all who have studied the subject, that for a volunteer Army, the power to obtain recruits will be very much affected by the life that men live in barracks in time of peace. It

is but natural that a young man, thinking of enlisting, should ask those of his "chums," who have already served, what sort of life they lead at home and abroad; what work they do; what amusements they can count on; and what they gain in the way of facility for employment when they return to civil life. A country lad, failing to get a satisfactory answer to these questions, would either cast about again and see if he could not get any advance on the wages he was then receiving, or would migrate to London, or some other big city, with the view of finding out for himself whether the higher wages he could earn there were enough compensation for the country pleasures he would have to give up. But, whether he stays in the country or goes to the town, failure to get on as quickly as he had anticipated, or the love of adventure and the desire to see foreign lands, induce a good many Anglo-Saxon lads to take the shilling, especially when the terms of enlistment are short.

I will now consider briefly his life after he has joined. Of what does it consist? And can it, at the same time, be made sufficiently acceptable to recruits to enable us to fill our ranks? On a satisfactory solution of these questions depends the success or failure of the voluntary system.

But, before going into particulars, let me say a word or two in regard to "work" in the abstract. I have often been met by the argument that the recruit in the British Army objects to work, that his chief object in enlisting is to escape from it, and that if you give him more to do than he likes, he will desert, and prevent others from coming in. Granted that "how to work" is one of the things that you have to teach a recruit, the question seems to be: cannot you do so in an intelligent and methodical manner, so that the young man may appreciate what is being done? And cannot you, at the same time, provide him with sufficient amusement to make his life, on the whole, a pleasanter one than it has been hitherto?

Boys and girls of all temperaments are taught in our elementary schools; and I see no reason why men cannot be taught in Army classes. Again, in regard to work, the most popular regiments are certainly not those in which there is the least to do. The hardest worked ones are notoriously the cavalry, the field artillery, and the engineers, and for these there is seldom or ever any lack of recruits. I believe that work itself is not distasteful to the soldier when it is regulated properly. But what men, old and young, hate, is what they call being "humbugged about"; that is to say, being taken, at uncertain hours, to do unnecessary duties. I have often seen an infantry sergeant-major go into recreation rooms or canteens, after ordinary working hours, in order to sweep up a few men to do some fatigue work, the need for which was not foreseen when orders were given out in the morning. This system, or rather want of system, is particularly distasteful to men, and should never be resorted to except in case of a fire or a riot.

At one time in my Army service, when I was particularly interested in infantry training, I collected some details showing how recruits and trained soldiers were usually occupied throughout an ordinary working day, in an ordinary English barrack, and the information thus acquired was most instructive. (See Appendix III.)

Let us now consider in detail what a soldier has to do after he has enlisted. It may be said that his life is made up of the work that he has to perform in return for the pay he receives; the relaxation

that he can obtain in out-of-work hours; and the training that he can get to fit him for employment when he returns to civil life. Of course the first business of a young man as soon as he has taken up, whether for a short or long period, the profession of arms, is to make himself fit for the duties of a soldier. To do this, he must be strong and active, able to carry a rifle and ammunition, and such articles of campaigning kit as may be required for a march of 12 to 20 miles, and then be fit either to fight a battle, or to watch the enemy as an outpost sentry through the hours of night. Then he must be a good rifle shot, and proficient in the use of the bayonet; he must know how to handle pick and shovel; and he must be able to carry out without hesitation the military exercises that put him in a position to use his arms with best effect. He should also know those campaigning accomplishments which tend to keep him in health and strength during the stress of war. Finally, he must learn the lessons of implicit obedience to those placed over him, and of cheerful endeavour to do his best in whatever circumstances he may find himself; in fact, the lessons that we call "discipline."

Let us assume that an English lad, living in the suburbs of one of our rapidly growing towns, who has been carefully taught in one of our elementary schools, makes up his mind to enlist in order to see something of the world. In these latter days he would have learned physical exercises, and he would probably have played occasionally in a rough and ready way at cricket and football, so that his sinews would be in good order. His age for enlistment would be eighteen, and he must be qualified to pass the necessary medical examination. In what time can he be made thoroughly efficient so as to take his place in the ranks of a marching regiment? and what should be the process of his military education?

All who know anything of education are aware that the whole time at disposal cannot be devoted to instruction alone in order to get the most out of a student; his interest must be kept up, he must never be allowed to get "stale," and he must continually feel that he is improving. And, in order to effect this, the subjects of instruction must be diversified; no exercise, mental or physical, must be inordinately long; there must be intervals for relaxation; the hours for food and rest must be regulated, and the diet carefully thought out. The same system must be carried out, the same thought given to the subject in the case of the soldier. There must be times for physical work, times for mental instruction, times for amusement, and times for rest and food. Bearing this in mind, and taking into consideration what a soldier should know if he is to be really efficient, I think that two years, as a rule, should be reckoned on as required to turn the country lad of 18 into the trained soldier of 20.

During these two years there would not be time for special instruction in any trade or calling that would be of use to him in after life. Such instruction must be given to men as soon as they have passed an examination as a trained soldier, and are fit to perform ordinary duties.

Under the present system of infantry training, recruits are, in the first instance, sent to regimental depôts. The course laid down there for men that belong to the Regular Army is supposed to take 2½ months. But to do it properly would take about a year. As a matter of fact, at many depôts very little is taught because of the frequent demands to make up the strength of the home battalions.

On joining these latter, young men are usually treated as if they had only just enlisted, quite irrespective of any previous training they may have received, the argument being that they must learn their drill in the way in which it is taught in that particular battalion. Then the great object is to pass them as quickly as possible through such exercises as must be learned before they can take their turn of guard and other duties. The rest of the knowledge that should be acquired by a soldier is picked up, in some battalions well and quickly, in others indifferently and slowly, according to the system that exists in the regiment to which the battalion belongs. When the young soldier reaches the age of 20, he is considered available for service in India, and usually forms part of a draft to replenish the service battalion at that station, or in one of our Colonies.

I feel sure that a great many regimental officers will agree with me that there is plenty of room for improvement in what I have called the "Life of the Soldier," that is to say, his occupation while he is wearing his Majesty's uniform.

I have already indicated what a recruit has to learn in order to turn him into a trained soldier. But, before continuing my remarks on the occupations of a soldier in time of peace, I think I ought to clear away a misconception that I have occasionally found to exist in regard to the meaning of the word "training." When we talk about training a soldier, we mean, no doubt, getting him into the best possible condition for war. But the process is not the same as it is with a racehorse, or even with a prize-fighter. Our soldier must not only be strong in body, and able to stand hardships without losing vigour, but he must be clear-sighted, and able to carry out all military exercises with judgment and decision. Consequently we must take care that his course of training is as continuous and as thorough as possible. I have often seen squads of recruits that were getting on splendidly at their gymnastics and their musketry, broken up in order to swell the ranks of a battalion at brigade and divisional exercises. This may have given some practice to staff and commanding officers, but it did not teach the private in the ranks anything whatever.

I have said that, interspersed with the physical and mental training of the soldier, there must be fixed periods of relaxation. All who know anything of education will agree in this. It remains to consider what it should consist of, and how it can best be provided.

For myself the memory of the healthy exercise and splendid training of mind and body gained in the cricket and football fields at a great public school pre-dispose me in favour of those noble games. No barracks should be considered complete without ground in the close vicinity suitable for this kind of recreation; and it should be the business of military instructors to encourage men to play, rather than simply to look on and bet. Ball games, such as fives and quoits, should also be made possible. Then all barracks should be provided with dining-rooms, shower-baths, and miniature ranges, not to mention sufficient recreation rooms for reading and indoor games. But all these things are already recognised, and no doubt will be provided in full as soon as the distribution of the troops is finally settled.

The hours for meals and for sleep must be carefully thought out, and laid down in the general time-table. They will vary in different climates. In regard to meals, I have always thought that the arrangements in barracks should be as similar as possible to what they must be in the field, *i.e.*, an early breakfast, a light meal in the middle of

the day, and the heavy meal when the day's work is over. There are, I know, many opinions in regard to this. But I can't help thinking that its adoption would keep men from going out too often into the neighbouring town, and would prevent a good deal of drink and its attendant crime.

It remains to say a few words about the occupation, other than military training or relaxation, that should be provided for the trained soldier in time of peace, and I think I can't do better than quote from a private memorandum that I issued in 1892 in the Western District on the training and employment of infantry. The suggestions therein made were very well received at the time, and a good deal of interest was shown by commanding officers and others in trying to carry them out.

The proper training and employment of soldiers is, without doubt, one of the most important military questions that has to be faced. If men are well and profitably employed, crime and disease diminish, pay is economised, a feeling of improvement is set up, and they are contented and happy. Moreover, when they return to civil life, employers are willing to take them with no other recommendation than the record on their discharge certificates—and thus the Service becomes popular in the country.

The most important employment for a soldier, and the first to be considered, is, what will make him fit for the duties of war? To be fit for active service a soldier must be strong and vigorous in body and mind; he must know such exercises as are required to enable him to use his arms with full effect; and he must be properly disciplined. The way in which this result is brought about is by employing him in the exercises that we call drill, in gymnastics and manœuvres, and in barrack room occupation, such as cleaning his arms and accoutrements, etc. Now, it cannot be denied that these employments, vary them as you will, are somewhat monotonous in the infantry. In the cavalry, looking after the horses affords considerable interest, and varies the ordinary routine. In the artillery, the work with the guns and stores gives plenty of occupation, and in the Administrative Services there is usually enough for all hands to do. But in the infantry, when the day's drills are over, in many regiments at one o'clock, nothing remains for the men to do except to walk out in the streets of the nearest town. Now, drills and exercises by themselves are hardly enough to keep a man in condition for war; and they only fit him for civil life in as far as they inculcate in him habits of obedience, tidiness, and cleanliness. Hence it is necessary to try and find something else for him to do. Other occupations can be found in the regimental shops, in gardens, in such work as that of clerks or officers' servants, in what is called garrison "employ," such as labour in the ordnance stores, or the R.E. yard, in orderly work, fatigues, etc.

I am aware that these occupations are much decried. Commanding officers frequently say "they don't know where their men are, they are all on garrison employ or regimental fatigues." But I believe that all these occupations are of advantage if properly controlled and done at regular hours, so as not to interfere with the more military employment first mentioned.

There is room, too, I believe, for occasional sports, and these are beneficial if kept under proper control.

I will now suggest for consideration one or two points in regard to the method of organising employment in a battalion of infantry.

a. Establish a *time-table.* Without this it would be impossible to work any of the manufactories or public schools, whose management has made England famous; and without it I am sure it must be exceedingly difficult, if not impossible, to work such a complicated machine as a regiment.

b. Take care that whatever work is done shall be carried out thoroughly, and not in a half-hearted way, otherwise it is of no use as a means of training; and don't let any one occupation last too long.

c. Let every man know beforehand what he has got to do throughout the day.

d. Establish certain days for particular drills and exercises, as far as possible, and regular hours for payments, inspection of kits, and other routine duties.

e. Let only good men, who know their military work, be employed at any special occupation where extra pay or any advantage results.

f. Let all men, however employed, take their turn of guards, and such drills and duties as are considered necessary; otherwise, those who do the guards and duties are discontented.

g. Let all special fatigues, as far as possible, be done in the afternoons, and then be done regularly under non-commissioned officers detailed for the duty, and supervised by the captain or subaltern on duty. Fatigues to clean empty barrack rooms and accessories, to weed and roll parades, and do other necessary work about the barracks, could, at all events, be always done in the afternoons; and they could be done at regular fixed hours by the balance of men who are not otherwise employed. This occupation would then correspond with evening stables in the cavalry and artillery.

h. No one should be allowed to leave barracks until a regular fixed hour—that is to say, until the day's work is supposed to be over.

In regard to the drills and exercises which, as I have already stated, must form the first and most important part of the training of a soldier, I would make the following suggestions:—

Go through the drill books, and lay down in orders, each week, or periodically, what is to be done, and who are to be the instructors. Arrange that all young men shall have one short physical drill or gymnastic exercise daily.

Have a commanding officer's parade at least twice a week, and make it a rule that every man in the battalion, however employed, attends at one or other of them.

When the men parade in marching order, do a few exercises with arms, and at the double, to test the fit of the accoutrements.

Do all possible to obtain suitable ground on which to carry out the various company and battalion exercises; and bear in mind that, on the march to and from any ground at a distance, a good deal can be done in the way of instruction and training. A slack march is worse than useless, but a carefully ordered and well conducted one is a good lesson for all ranks, and a training for mind as well as body. It is no doubt the case, that a good deal of what I have recommended in these remarks is already done in regiments. Still, there may be some points in which improvement is possible, and these are the points that I commend for careful consideration. I should like all officers and non-commissioned officers to be impressed with the feeling that there is no duty so honourable, and at the same time so responsible, as the charge and training of men. There may, now and then, be a sense of monotony in incessantly repeating the same task. But this mono-

tony is nothing to what exists in many other professions, and by a careful arrangement of the time-table, and a proper distribution of responsibility, it may be reduced to a minimum.

Mobilisation.

In the preceding pages I have given my opinion regarding what we should do to obtain men under a voluntary system for the British Army. I have shown how the soldiers of that Army ought to be equipped for war, and how they should be organised to enable them to use their arms with the greatest effect. I have also dealt with the question of the distribution and training of our troops in time of peace so that they may be able to respond at once to any calls that the Empire may make on them in time of war. It now only remains to explain how they can best be prepared when war threatens. But in this connection I may mention that in every phase of the subject I have kept to the fore the all-important question of preparation for war. For I felt that, unless this was done, there was danger that when the machine was wanted it would not work.

In dealing with distribution I have explained how, for purposes of training as well as of administration, the British Isles must be divided into military districts. In these districts will be found the various units that make up the divisions and army corps of a field army, and to the generals and staff of these districts the duty would devolve of seeing that every unit is fit to undergo the hardships of war. The concentration for summer drills of small bodies such as brigades could usually be arranged for in districts. But the concentration of larger bodies which would necessitate the co-operation of two or more districts, would have to be ordered from headquarters. This has its advantages, because it is good practice for our Intelligence Branch at the War Office to have to organise them, and to detail the necessary staff.

While on this subject I may mention that to maintain in districts a larger staff than is necessary, is not only a useless expenditure, but an absolutely harmful one. For it gets officers into the habit of leaning on others instead of thinking for themselves, with the result that there is much writing, and considerable obstruction and delay in carrying on the work. In time of war there are many local duties to perform that are not required in peace, such as the intelligence work, the care of the wounded and sending forward reinforcements, re-organisations rendered necessary by changes in plans, the administration of occupied country, not to mention the arrangements for working railways and telegraph lines, and those incident to the constantly changing requirements of supply and transport. Now all this necessitates a large staff at, or near, army headquarters, and at certain points on the line of communications, and at the base. On the other hand, in districts in time of peace there is the never-ceasing work of looking after the training of the troops.

Without doubt a good staff policy should take care that district staffs are not too big. But, at the same time, a considerable number of officers should be attached to our Intelligence Branch at Headquarters, and as many as possible of these should be employed in surveys and other special work under the Foreign Office and the Colonial Office. Others should obtain temporary employment during

the summer at small or big manœuvres, where the staff should be formed as if for war, and perform, as far as possible, war duties. The Intelligence Branch should, of course, keep a careful record of all the officers who might be useful in time of war, so that there would be no delay then in filling up the appointments.

I will now take up the immediate subject of this portion of my article, viz., Mobilisation.

Literally, mobilisation signifies to make movable. But it has been taken to apply to the whole process by which a peace army is changed into a war one, *i.e.*, completing the various existing units with men, horses, and stores, and creating any further units that are not kept up in peace time.

The regulations for mobilisation, issued in 1904, are, to my mind, well suited for the somewhat peculiar circumstances of the British Army. The proposals I have made would not alter them in principle, so I will confine myself to explaining, a little more in detail than I have hitherto done, the Scheme of Defence for the British Isles, and show how the Army can take up with the least possible disturbance of the country's labour-market, the duties of war.

The Scheme of Defence for the British Isles depends on naval considerations.

I have already, under the heading of Distribution, assumed certain conditions to guide the distribution of the troops in the United Kingdom in time of peace. I will assume these same conditions as the basis on which to build a Scheme of Defence. The actual conditions can only be laid down by the Government of the day, on the advice of the Council of Defence, and I am glad to feel that this Council is now really an imperial one, and therefore, one likely to steer clear of party politics.

Briefly, the conditions are:—

1. A field force held ready at short notice for an expedition abroad in concert with the fleet.
2. A similar field force to take the place of the first when it has left the country.
3. Garrisons for our naval stations at home.
4. Supports for the naval coast-guard.
5. Reserves to maintain and reinforce British white troops in India, and in our naval coaling and repairing stations abroad.
6. Troops to maintain and strengthen the field force, or act elsewhere if the Empire is in need of them.

I assume that the field force 1. should be composed entirely of Regulars, and that it should consist of 6 infantry divisions, organised as I have suggested, and 2 cavalry divisions, and line of communication troops for a line of communications by road, railway, and river, of 100 miles in length.

This would be practically 2 army corps. In order to enable it to be used rapidly, before the Reserves were called out, one of these should be maintained at war strength. The other might be of lower strength, to be made up from the Reserves. The staff for this Force should all be named, and the officers warned. They should be called out, and put in their places at the annual exercises, or manœuvres.

The stores should all be ready, located either at the stations of the troops, or at the ports of embarkation, from which they would depart.

It has already been laid down that all war stores in our Army should be of such sizes and shapes that they can be used with pack transport if required. One of the divisions should practise annually with pack transport, to test the fitting of saddles and straps, etc., and to enable the men to become acquainted with their peculiarities. We should thus be prepared, at all events, with patterns, for a war in which pack transport was necessary, as well as one in which wheel transport could be used. The latter, of course, would be used whenever possible, because it is much the most economical.

The second field force should be similar to the first, but it should be taken mainly from the Militia. The stores might at first be on a home scale, but all arrangements for their completion to full war requirements should be thought out beforehand, so that there would be no delay in preparing the force for war, if they were required to go abroad in addition to the first.

The garrisons for our naval stations at home require carefully going into. Each one has to be worked out in accordance with the local Scheme of Defence, when the latter has been modified to agree with the Scheme of Defence of the whole country. I think that, with the exception of a portion of the artillery and engineers, which might be Militia, the whole of these garrisons might be supplied from local Volunteers, especially if the organisation that I have proposed (the company one) be adopted. Volunteer battalions should be organised in multiples of three, and should be prepared to put into garrison, at short notice, and maintain there, a third of their companies. The battalions might be brigaded for administrative purposes, as may be found most convenient locally.

In the earlier part of this lecture, I said that each Volunteer corps should have a "service" section ready to reinforce the Regular battalion, or other unit to which it was affiliated. The strength of the section that could be guaranteed by each corps, and the way in which they could best be grouped together must be carefully considered locally. No doubt the double-company organisation that I have proposed would make the application of the arrangement more satisfactory than it was in the South African War. It will be necessary to settle the extra grant per head of the section, and to lay down the qualifications. The fact of a corps having a certain number of soldiers willing to be formed into a section or company for active service abroad, need not interfere with the Volunteers carrying out the duty of garrisoning our naval fortresses at home, or supporting our naval coast-guardsmen. They would not be called upon to furnish the reinforcements to the Regulars unless the war we were engaged in was a serious one, beyond the power of our ordinary field forces to cope with. When, eventually, the service sections left the country, their places would have to be taken by Volunteer Reserves, or fresh Volunteer enlistments. The staff and other details for each garrison would be worked out in the Scheme of Defence. The equipment for troops in home garrisons could be a modified one. But personal equipment should be the same in garrison as in the field, so that the individual soldier could be made available for any duty that might be required of him.

A few words on the subject of supports for the naval coast-guard. Anyone who has visited the coasts of Great Britain knows that at

every point, guarding every landing-place, there is a small naval force on shore. From morning to night these coast-guardsmen are sweeping the horizon with their glasses. They know what every passing vessel is about, and to what nation it belongs. They are continually on the alert, in peace time to protect us from smugglers, in war time from inimical raiders. But in war time they might require, now and then, some assistance to enable them to carry out their duty; and so I propose to detail supports to them from local Volunteers and local Yeomanry. These troops could be worked in the same way as I have suggested for the home garrisons, viz., by providing one-third of their numbers at a time. The Scheme for the whole coast will have to be worked out in districts, in consultation with the local naval authority, or by a special committee. The result that I would aim at would be to form a series of outposts round our coasts in strength proportionate to the work that might have to be done. In each case the naval coast-guardsmen would be the eyes of the outposts, and upon them it would rest to summon all, or a portion of the supports whenever they thought it necessary. Should a raid ever be made of sufficient strength to drive in an outpost, the latter would have its line of retreat on its Reserve, which would be placed in a central position. The outpost Reserve might then either resist the raid, or, if thought necessary, retire towards the nearest fortress. Any further dealing with the raid would be the business of the field army.

The troops that we require to maintain and reinforce the white troops in India, and in our naval repairing stations abroad, must be Regulars. They can be supplied by drafts from battalions and other units, the latter being made up to war strength when required, by calling out the Reserves; or they can be supplied from special depôts.

There are advantages and disadvantages in either system. Without going into the arguments, I offer the following as a solution of the difficulty:—

The drafts for all cavalry at home and abroad to be sent direct from depôts; the regiments at home, except those in the first cavalry division, being maintained at a lower strength, and made up from the Army Reserve on the threat of war. The same plan to be adopted generally for the artillery and the engineers. In the case of the infantry, both systems should, I think, be kept going. Battalions in India which do not take recruits until they are 20 years of age, should be supplied with drafts of trained soldiers from battalions kept at certain stations at home. The same arrangement should be made for battalions at our naval bases abroad, where they might be considered as on their way to or from India. In time of war these training battalions could be made up to war strength from the Reserves, and form the nucleus of a third field force.

Battalions of the first field force, which it is proposed to hold in hand in England for rapid action in connection with the Navy, should be supplied with trained soldiers, or partially trained recruits from specially organised military schools like those of the Guards at Caterham, or of the Rifles at Winchester. The same arrangement should be made for battalions sent temporarily abroad, which is now the case in Egypt and South Africa. These battalions would, for purposes of organisation, be considered to belong to the first field force.

In working out the relief of battalions abroad, the change in the system of supplying drafts will have to be borne in mind.

Lastly, we should have the Militia that we possess, in addition to the second field force, to make up the third, or even, if thought necessary, a fourth field force, similar to those already described. But whatever strength is decided on by the Government for the British Army, the central mobilisation branch must have a scheme for forming the various arms into divisions, and equipping them with all the necessary stores.

There would still be the Militia Reserve to supply drafts, and as a general support to the Army.

Conclusion.

To sum up the recommendations that I have made in this lecture:

1. Physical training, not necessarily for Army purposes, but for the benefit of the race, should be a part of the curriculum at all elementary schools in the British Isles.

Moreover, the history taught in the same schools, with a view to promote and foster feelings of patriotism in the rising generation, should draw special attention to all noble deeds that have tended to make the Empire what it is.

2. Boys' Brigades and Cadet Corps should be encouraged by inspections in military districts, and by a carefully prepared scale of assistance rendered out of War Office funds.

3. Enlistment, as described under the heading How to Get Men, should commence at the age of 18. The conditions should be as free as possible; that is to say, the terms should, within limits, be short, so that a man can readily return to civil occupations if he can find employment; but at the same time, if he fails to obtain other employment, or prefers a soldier's life, he should be allowed to continue in military service until he has earned a pension.

4. Personal equipment for war should be designed on scientific principles, and should be frequently worn to accustom men to its use.

It would be well, I think, having settled what articles a soldier should carry in war, and what are the conditions of a good equipment, to offer a prize large enough to attract the constructive ingenuity of the nation. We might then obtain something better than other nations have got, instead of the reverse.

5. Infantry organisation should be modified to enable full advantage to be taken of the changes brought about by improved firearms in modern tactics.

In working out a new organisation, the principal point to observe is to stop duplication of duties, so as to ensure that every officer and non-commissioned officer shall have a distinct responsibility from the time he starts. For thus only can you train men in time of peace, and make it safe to decentralise command in time of war.

6. In working out a system of training, the difference between recruit training and training for a field soldier should be fully recognised.

In order to make training a reality, soldiers should be divided into three classes, viz.:—Recruits or third class, trained soldiers or second class and first class. The latter should include all scouts and non-commissioned officers. A physical and mental examination should be required for promotion in each class, and promotion should carry with it extra pay and a badge.

Recruit training should be carried out in military schools at depôts and elsewhere. *Field training* in battalions and other units. The whole routine of education and training in battalions, which is the life of the soldier in peace, must be systematised and made happy and useful.

7. A Scheme of Defence, based on the general Scheme of Defence for the Empire, should be prepared for the British Isles. For only by so doing will the whole business of Army Government be able to be seen in its true proportions. And only then can the machinery for the administration and training of all our various troops, at home and abroad, be properly set up, and efficiently worked.

APPENDIX I.

Field Service Blankets.

For many years, dating from the experience gained in the campaigns under Wellington in the Peninsula, there were two blankets in the British Army: a field service one, which was only made as large as was necessary to keep the soldier warm in camp or bivouac, and a barrack one for use on a barrack bed. The latter was much larger and heavier than the former. But in time of peace it occurred to some would-be reformer that it would tend very much to simplify accounts if there were only one pattern instead of two, and the field service blanket was abolished. I wonder whether the transport officers in South Africa, who had such difficulty in keeping up the supplies of food and ammunition, ever realised the extra amount of weight that this one little "reform" imposed on them, or the cost to the country of all the extra transport that it entailed.

APPENDIX II.

The Great-Coat.

A few words in regard to one of the indispensable articles of a soldier's kit, viz., the great-coat, which is required to keep a man warm in camp or bivouac.

The following information regarding it was sent to me during the fighting in South Africa, in answer to the questions: Is the great-coat good, or is it too heavy? Would a lighter one of better material and warmer be an advantage?

Answer: "I don't think the great-coat good; it is still too heavy, and men would rather go through the chilly early mornings shivering than have to carry their coats on the march. It is also not large enough, I mean in breadth. It ought to be able to be put on like a cape over everything, accoutrements and all, so that a man on piquet simply throws off his coat and is in fighting kit. I suggest a coat of better material than the present one, and thicker, but shorter. Some of the King's Royal Rifles from India have a very good one; it looks like a covert coat, but is slightly longer; it is lined with flannel, and is very broad."

If ever the Aldershot Dress and Equipment Committee have again to take up the question of the pattern of the great-coat for dismounted men, I recommend them to give up attempting to make one coat answer

for two purposes. It can never be made light enough to be carried easily on the line of march, and yet be a real protection in the night bivouac if it has also to serve as a watch-coat for a sentry on guard over an English palace. Every soldier should be provided with a coat suitable for war, and every guard-room should contain sufficient watch-coats for the sentries that it mounts.

APPENDIX III.

I will take an instance from the notes I made at the time, because it shows what the soldier means when he says he is "humbugged about." A battalion, the name of which I forget, returned from foreign service, and came to take up its quarters in one of the Devonport barracks, when I was in command of the Western District. This battalion was not in as good order as the others at the station, and it was specially watched by the staff.

Among other peculiarities, it was noticed that the men were roused from their beds two hours earlier than there was any occasion for; and, having nothing to do, they used to sit shivering on the edges of their bedsteads (for it was the depth of winter), and no doubt cursing pretty freely the system that allowed them to undergo such useless discomfort. I need hardly add that it did not take long to abolish this custom, and turn the curse into a blessing.

Colonel W. T. Dooner (Late Royal Inniskilling Fusiliers):—The time at the disposal of each speaker is so short that I must go to my points at once, and therefore I will not lose a moment in making any preliminary observations. I think we are all deeply indebted to Sir Richard Harrison for coming here to-day and giving us this excellent lecture, and I hope I am voicing your opinions when I say that he has probably done well in looking at any future organisation of the Army from the stand-point of the voluntary system and not from any compulsory method of enlistment. Sir Richard Harrison recognises apparently, as I do, that any form of compulsory service, even for home defence, has not as yet come within the range of practical politics. I think if you study any address made by any Member of Parliament to his constituents, you will find that the subject is never referred to. No candidate for Parliament ever ventures to touch on this subject of conscription, and I think the people of these islands are against it. Sir Richard Harrison apparently does not think that any form of compulsion is necessary at present. He says: "Let us first do what we can to train all the men we get under the voluntary system, and let us do everything possible to encourage the patriotic spirit of the country." I think if we do that it will accomplish all we require. In any consideration of this question of compulsory service, it is necessary also to consider the extra expense. The Secretary of State for War, as you are probably all aware, said in Parliament that he wondered if any gentleman who argued in favour of conscription had considered what the extra expense to the State would be, and then made the calculation that it would cost an extra sum of 26 millions a year. This calculation was incorrect; Mr. Arnold-Forster seems to have made his calculation on the principle of giving every conscript a clear shilling a day, but our present soldiers do not receive a clear shilling a day on enlistment; and that is the reason, I think, that the voluntary system has never been

given a fair and proper trial. I had much to do with recruiting as a commanding officer for ten years, so I hope you will recognise that I probably know something about what I am saying. When the men go up to the pay table for their first payment (and Mr. Arnold-Forster has pointed it out many times, and the greatest credit is due to him for having done so), they only receive some four shillings weekly. Do you think that the voluntary system, when the men are given such pay and emoluments as that, has been given a fair trial? I do not. There are many other arguments against compulsory service which should be borne in mind. Volunteers for active service are always to be preferred to pressed men, and we have all read of what went on in Russia, in connection with the mobilisation of reservists. In Russia any man who volunteers to serve his country is looked upon with suspicion; happily with us it is different, and the volunteer is looked upon, I hope, as one of the most patriotic men in the country. It is the same in Japan. The first point that Sir Richard mentioned, to which I wish to refer, was with regard to the terms of enlistment. It is not of very great importance within reason what the terms are, whether eight years with the colours and four with the reserve, or, as Mr. Arnold-Forster changed it, to nine with the colours and three with the reserve. Of the two, what Sir Richard Harrison proposes is the better, and for this reason, that eight years with the colours will give a man four years in the reserve, and the reserve will not be depleted; but if the men run to nine years, as they do now, there will possibly be a grave deficiency hereafter in the reserve. The men who are enlisting now for nine years will only have three years in the reserve when they leave the colours, if they leave the colours at all, about which I have some doubt. Hereafter very many of them will be tempted to stay, and will stay. When they fully realise that they have given up nine years of their life to the Army, they will naturally say:—"I will try and go on for pension," and the reserves will be decreased very much thereby. Eight years with the colours and four years in the reserve, proposed by Sir Richard Harrison, is probably the best plan; seven years with the colours and five years with the reserve, proposed by Lord Cardwell, was, perhaps, better still, but in that case there was always a clause in the Attestation Paper that a man could be kept an extra year if, at the completion of his service, he was serving abroad. As practically ninety-nine men out of every hundred were serving abroad when they completed their service, they were kept for the extra year. Therefore, what really happened was, that all the men served eight years with the colours and four years with the reserve, the term proposed by the lecturer. Sir Richard Harrison has suggested several different classes of soldiers, but I think with our system it would be an impossibility for the officers, to really do justice to the men, because the latter first serve at the depôt and are then transferred to the home battalion, and before we could probably classify them fairly they are sent on to the foreign battalion, and then it would devolve on the officers of their new battalion to classify those men without knowing very much about them. Having different classes of soldiers with our system is, I venture to think, a mistake. Sir Richard Harrison mentioned that the men should be kept only five years abroad. That would be an improvement, but will cause expense. If, however, it is adopted, a system of seven years' service with the colours would be sufficient. The regulations already lay down that all men who wish to return home can register their names and return home on the completion of six years; but as the term of enlistment up to quite recently

was only seven years, this regulation could seldom take effect as the great majority of men enlist at eighteen, and cannot be sent to India till they are 20 years of age. It would only apply in the case of men who had extended their service; the others came home as a matter of course for transfer to the reserve. There is one proposal mentioned in the paper we have heard read, which I hope I shall be able to enlist your sympathies to prevent its being carried out. I gather that Sir Richard is in favour of large special depôts for the infantry. I think he mentioned that the recruits were to be kept there for two years, and then went on to say that the present small depôts could not possibly keep the men for so long, and therefore I conclude large depôts must be intended. There are so many arguments against this system for the infantry that I fear I shall not have time to touch upon them all. I do not think, however, there is one officer who has ever commanded a regiment and regimental district who would be in favour of having large depôts—depôts of five or six territorial regiments put together into one barracks. Sir Richard Harrison belongs to that distinguished corps, the Royal Engineers. He goes down to Brompton, Chatham, and sees his corps together in one barracks; a very excellent and proper arrangement. Similarly the Secretary of State goes to Walmer or Eastney, and sees the Royal Marine Light Infantry and the Royal Marine Artillery each in one barracks. Or, perhaps, he goes to the Guards at Caterham, or to the Rifles at Winchester. But these depôts all belong to distinct corps, they are not mixed one with the other. The Green Jackets have been practically always a corps; so are also the Royal Engineers and the Guards; but with regard to the rest of the infantry, what is the proposal? Let us take the West Kent Regiment at Maidstone; the Buffs at Canterbury; the Queen's at Guildford; the Sussex at Chichester; and the Royal Fusiliers at Hounslow. It is suggested to put them together into one barracks at the latter place, and if this is done, I can only say that the *esprit de corps* of the Army will be set at naught and ruined. Or, let us cross to Ireland and take a case from there. The Inniskilling Fusiliers; the Irish Fusiliers; the Irish Rifles; and the Dublin Fusiliers, green coats and red coats, would all be moved up to Belfast and quartered together, if this scheme of large depôts is persisted in; and as Mr. Arnold-Forster said yesterday evening at Croydon, he had not changed his opinions one iota, it is presumed that this unwise scheme will be carried out. All who have served in and love their regiment, and know what *esprit de corps* means, will shudder to think of such a system. It would be only a return to what was in force forty years ago at Chatham, when there were depôt battalions, as some officers before me may remember — I remember it well, because I served with one — when there were some eight or ten depôts in one barracks. I am, perhaps, addressing some parents here who have sons who are contemplating entering the Army. May I recommend to you, if your son is successful in his examination, to see that he is not led into joining one of these mixed depôts, but take care that he gets to the home battalion at once. In this connection I would like to quote the opinion of those two distinguished field-marshals, Lord Wolseley and Sir Evelyn Wood. They were both against these large depôts that Sir Richard Harrison is apparently in favour of; they said they were not satisfactory training schools, and that the linked battalion system had been our salvation. There is one other point against these large depôts, and in favour of our present system, which is most important. I think the brightest spot

in our arrangements in the autumn of 1899 was the facility and quickness with which the Army was mobilised. The order for mobilisation allowed the men ten days to report themselves. I thought at the time that ten days was too long; but the result was, that the men in almost all cases reported themselves at their depôts on the ninth or tenth day. They were then transferred in batches of 100 to their battalion that was going out to South Africa, and within seven days they were on board ship, and on their way to the seat of war. Could any system be better or quicker? I venture to maintain that to interfere with an arrangement which produced such excellent results would be altogether wrong. The present territorial depôt system for mobilisation purposes is a splendid arrangement, and those who instituted it and brought it to such perfection deserve the thanks of their country. It was a great feat for the men to be transferred so quickly to the different battalions, clothed and equipped, and on board ship within one week of reporting themselves. What would happen now if these large depôts are established, say at Hounslow for the Buffs; the West Kents; the 2nd Queen's; the Sussex Regiment; and the Royal Fusiliers; or if the example I mentioned in Ireland was adopted, and that mobilisation was ordered? The reservists would be coming in, not in hundreds but in crowds, and it would be an impossibility to deal with them satisfactorily, and send them away to their home battalions. The mobilisation could not be efficiently carried out, and the cost of building suitable barracks would be enormous. Regarding the Militia, I would like to refer to Sir Richard Harrison's proposal, that the officers of the Regular Army should all join from the Military Colleges or the Universities. That is a very excellent idea if it can be carried out with due regard to the Militia, but many commanding officers of Regulars will agree with me that the officers who join their regiments from the Militia are very well educated. I venture to maintain that they run the Sandhurst cadet very close indeed. They are taught by men who are doing it to earn their bread—well-known instructors and tutors—and these Militia officers have to go through a most severe competitive examination before they can gain a commission. They, therefore, come to their battalions fit, or almost fit, to at once take their places. I should also like to ask what would have happened in 1899 if we had not had these Militia officers to fall back upon? The Regular battalions were very short of officers for active service—in some cases wanting nine or ten officers to complete them to war strength. Letters were sent round calling on the commanding officers of the Militia to recommend candidates for commissions in the Line. The candidates were officers who had failed possibly by a few marks in their examinations, but they came and took their places in the Regular battalions proceeding to South Africa, and I consider the Militia rendered us a noble service on that occasion. If I am not wearying you I would ask for a moment to refer to the Volunteers. Sir Richard has said that in the scheme of defence for the United Kingdom, the Volunteers should be three times the strength which will be required. I think it would be better if it was four times, and for this reason: that there are four battalions in a brigade, and I do not think the organisation should be different to the Line organisation. With regard to the expenses of the Volunteers, I suppose there are few in this room who are aware how the Volunteers are paid for the noble and patriotic service they give to the country. I came to learn this accidentally. The command of a battalion fell vacant, and there was some difficulty in finding a new C.O. The trouble was this, that every

battalion is paid the capitation grant yearly in arrear for their services. At the commencement of every financial year, on the 3rd or 4th April, they are paid the money for the year preceding, and the War Office sends them a cheque for services rendered during the previous year, ending the 31st March. They then have to pay all their expenses for the previous twelve months. The question then arises, how is the work to be carried on during the following year, on which they are just entering? Some corps have rich men who most liberally come forward and assist them, but the majority of corps have to go to their bankers and get an advance of £1,500 or £2,000, paying a considerable sum for the accommodation. So that an officer when he meditates assuming the command of a battalion, and finds he has to do all this, declines to accept the position. It is within my knowledge that many efficient officers have been lost to the Volunteers owing to this financial difficulty. Why cannot Volunteers be paid quarterly in arrear? Any over-payment can be easily remedied, as if a battalion was paid more than was justified by its strength the matter could be adjusted the following quarter, or at the end of the year when the returns are furnished. I beg to urge that the Volunteers should be treated with the greatest sympathy, and that this monetary anxiety should not be placed on the shoulders of commanding and senior officers. There are many other subjects I would like to refer to in the excellent lecture we have listened to, such as that organisation must give way to tactics, and not the reverse; also the number of officers in each double company proposed by Sir Richard Harrison appears to me too few. Do not forget what occurred to the Bavarians in 1870, when they had to be withdrawn from the fighting line owing to the lack of officers. In South Africa also the Inniskilling Fusiliers came out of action near Reiters Hill with only five officers. Many now lie on the Tugela Heights. My time has, however, expired, and I therefore conclude by thanking you for the very kind way in which you have listened to me.

Lieut.-Colonel ALSAGER POLLOCK (late Somersetshire Light Infantry): —Colonel Dooner has devoted himself principally to matters on which I had intended to speak, but as I have been called upon I will endeavour to say a few words, partly with reference to some of Colonel Dooner's remarks, and partly with reference to general questions involved by the subject of the lecture. I came here prepared to hear a great deal which would not only interest but instruct, and I think you will all agree that none of us have any reason to be disappointed on that score with the lecture which has been given to us. It was my privilege in years past to serve under Sir Richard Harrison's command, and I well recollect what a lively interest he always took in a subject which has always been a special hobby of my own, company training, though I need hardly say that his familiarity with the profession of which he has been for so long an ornament was not limited to such comparatively small affairs as that. In this lecture, however, I think a point has been omitted which is of very great importance. The Militia question has been alluded to but not dealt with. We have heard from Colonel Dooner that this country will not accept compulsory service. I think it may reasonably be assumed that nobody, unless compelled to do so, by duty or necessity, would accept anything that is disagreeable. I quite agree with Colonel Dooner that the voluntary system has not yet had every opportunity it might have had, and I am very willing to grant that it is possible to arrange for an

Army, upon a voluntary system of enlistment, which may be found large enough and good enough for our needs; but at the same time, I think we should be prepared to admit that if upon the contrary it be proved that we cannot get a satisfactory Army by voluntary methods, then unless we are to depart from our estate amongst the nations we must swallow the pill of compulsory service as best as we can. There are, as the lecturer has told us, two ways of getting soldiers, the one by voluntary enlistment, and the other by compulsory enlistment. I suppose we may take it as certain that for what Sir Edward Hutton has called the "Police of the Empire," that is to say, the Regular Army, we cannot for a moment dream of exercising compulsory recruitment. But if, on the other hand, it should be necessary, we can undeniably put in force the present law of the land now merely suspended, the Ballot Act; or adopt some other means of compelling the citizen to service his country in the Militia. I think there would be one very satisfactory feature connected with the adoption of compulsory service in this country, namely, that it would at least get hold of the "sleek citizen," who has never done a hand's turn in either the winning or the keeping of the Empire since this England was a nation. Why should the Empire be defended by the top and bottom strata of the social mass? Let the great middle classes take their turn, and shoulder their rifles. The Militia appears to me to provide, if it were properly treated, just that means of expansion for the purpose of a great war that we require. It is perfectly evident that the Army which must do the normal police work of the Empire, is the Regular Army, and we all know that for the recruitment of that Army compulsion is out of the question, for the simple reason that universal service, the only tolerable form of compulsion, would involve a vast amount of quite needless expense. Were we to exchange our military system for that of Germany or France, we should have a great many more soldiers than, in any circumstances, we could possibly require, and at the same time we should not have an Army to do that which everyday our Regular forces are required to do. Thus we come, I think, to this, that if we cannot provide for the expansion upon a Regular basis, we must provide for it by means of the Militia. If only we would make the conditions of service such that men in regular work could afford to join the ranks of the Militia, and that men practising in regular professions could afford to be officers in it, we could fill the Militia hand over fist in a very few months. How can you expect a man in regular work, in whatever position of life, to turn out upon a particular date for twenty-seven days' training at a stretch? It cannot be done. A militia-man, moreover, is never properly trained from the start to the finish of his service. He is "messed about," not *trained* at the depôt for only six weeks, and the Regulations say that as soon as he has been there for one week he knows so much, and when he has been there two weeks so much more, and so on to the end of the chapter. Eventually he leaves, having learned thoroughly nothing whatever. The same objection applies to a great extent to the training of the Line recruit. In the majority of depôts, not a vestige of real training is even attempted. I think I know something about it; I have had some experience. There are exceptions, of course. It is not the fault of the officers; the work has been nobody's business in particular. You could not expect the colonel to be in the square all day; and unless the major was made fully responsible, I am afraid that in the majority of regimental depôts the work was neglected, what little was done consisting of drill only. There is a wide difference between drill and training,

and yet, at the same time, the two require to be dove-tailed, so that you may not bore the men by sticking for too long at a time to the one or the other. We should arrange our enlistment for the Militia on a system which will allow that when you get your recruit he shall forthwith be trained thoroughly, which, in my opinion, can be done in six months. Afterwards, adopt the Volunteer plan; let the men be trained locally—by companies—so many drills in the winter in the Corn Exchange or the Drill Hall, and in the summer months exercises on Saturday afternoons and during the long evenings. Pay the men for their attendances, and then we shall readily fill the ranks. But so long as we expect men to turn out on a fixed day for twenty-seven days, so long we will never get officers or men, except the few of the higher classes who have nothing to do, and the "wasters" and casual labourers of the lower.

General Sir R. BIDDULPH, G.C.B., G.C.M.G. (Colonel Commandant Royal Artillery):—My object in rising is to say a few words with regard to the Militia, with which I have had something to do during my past career. The point to which I wish to draw attention is not so much the matter of enlistment referred to by the previous speakers, but the question which has been raised by the lecturer, of the formation of a field force of Militia for foreign service. The second field force, I think he said, which was to go abroad was to be Militia. If the Militia were an embodied force it would be another matter; but under their present organisation how could an effective field force be formed of Militia alone for foreign service? Have they got the training? Have they got the officers. That is the great difficulty. We must look back on the history of the Militia, which has been the backbone in many ways of the Army and of the defensive forces of the country. It is well known that in the Peninsular War the Militia were of the greatest service. The Duke of Wellington, in the last speech he made in the House of Lords, drew attention to the great value of the services they rendered to him in enabling him to carry out the policy of the country during the Peninsular War. But they did not serve in the war as Militia; militia-men were taken into the Line regiments. I ought perhaps to say that three provisional battalions of Militia were sent abroad in 1814. They landed at Bordeaux in May, were re-embarked there in June, and were disbanded two or three months later. If you will read Sir John Moore's "Life," you will find that his celebrated Light Division, which he trained at Shorncliffe, was composed very largely of militia-men, who were drafted into the Regular regiments of the Line which formed the Light Division which he took abroad. In the same way, when we hear of so many militia-men being at Waterloo, that is perfectly true, but they were serving in the regiments of the Line. During the Crimean War an Act was passed authorising Militia regiments to serve in the Mediterranean with their own consent. They were again during the South African War sent abroad, but that was during a time of very great stress. From what I have been told, however—I was not in South Africa myself—the experience gained in connection with them was not such as would encourage the formation of a field force of Militia alone. Even at the time when the Militia was looked to for the defence of England, at the time when there was a threat of invasion, when the Duke of Wellington was alive, and when he wrote his famous letter to Sir John Burgoyne, the whole idea then was to raise 80,000 militia-men, but they were to be mixed with the Line for the field force in England. A field force in England is very different from a field force abroad; it is impossible to

compare a defensive field force in England with an offensive field force abroad. I therefore think it would be conveying a false impression to the people of this country if we let it go forth that we think a field force could be wisely formed of the Militia alone as it at present stands. It is not fair to the country to advocate such a policy. The great value of the Militia ought to be as a reserve to the Line; they should support the Line, and that was intended in the organisation of 1870. The report of General MacDougall's Committee is well worth reading. It is an excellent report, and the Committee pointed out clearly that our policy in war would be to decide what number of men we are able to put in the field; and secondly, to keep that number of men up to fighting strength the whole time; that you must put your best men into the field first—the very best men you have—because a success at the beginning shortens the war, and may possibly end it. Therefore, that point ought not to be lost sight of. It seems to me that, looking at the organisation of the Militia as it is at present, especially in connection with the officers, many of whom are professional men and cannot leave their work permanently, that something should be done in that connection. You remember what occurred in the Crimean War, how many of the officers of Militia had to resign their commissions because they could not get away from their business for two years, and were obliged to resign on that account. You cannot expect that in these days you will get a force adequately officered from such men. I therefore think the Militia should be looked upon as being a force which should be mixed with the Line regiments, and supply them with both officers and men as the occasion demands. I feel sure they would be most valuable and useful in that way. The question of the Militia I do not think has been sufficiently taken into consideration. People now talk about forming Militia divisions for the purpose of going abroad. I do not think that is an economic or satisfactory way of using the Militia. We should try and keep our forces abroad up to the highest possible state of efficiency; but we have to fill their ranks, and we also have to supply officers. The Duke of Wellington never fought in the Peninsular War without every battalion in the field being worked in that manner; that is to say, we had 2,000 trained officers and men to fight a battalion abroad of 1,000 men. When Lord Hardinge was examined before the Committee of the House of Commons in 1855, after the Crimean War, he stated in his evidence that the reason for all our difficulties was because we only had single battalions to send abroad, and no battalions at home to support them. In a memorandum written in 1854, he referred to the greater efficiency of the Guards because they were formed on a double battalion system. We had no difficulty with the Artillery, also because they were formed into one regiment, and we could select the men and officers for field service without restriction. During the war we could only supply the Infantry of the Line with recruits from the depôts, and that is the reason they are no good. Lord Raglan, when he was told he could have some more recruits, said he would rather be without them, because they only filled his hospitals. General MacDougall's Committee proposed in 1870, that directly a war broke out, the Militia should be embodied and should be continually supplying the battalions abroad, because the great object is to keep the Army in the field thoroughly supplied with men.

Colonel H. H. A. STEWART (late Donegal Artillery Militia):—The lecturer in his very able remarks spoke of the Militia recruit being trained during the winter months. As we are to have a voluntary Army—at all

events for the present—I think that if you train militia-men or any other men during the winter months they will get a very cold reception. I retain to this day the memory of the misery I endured as a young ensign in my regiment in the winter of 1860-61[1] at Devonport. The lecturer has written most excellently on individual soldiers being allowed to serve abroad for only five years. I think the principle might be extended to units; that is, batteries of Artillery, battalions of Infantry, and regiments of Cavalry should not be allowed to serve abroad for more than six years. We saw in the papers the other day that a battalion had come home after twenty years of foreign service. I think that is a scandal, and especially so in these days when the ends of the earth have been brought together. There is one observation of the gallant lecturer that seems to me a little obscure. He says that candidates for appointment as officers in the Militia should first have two years' training. If I correctly interpret the lecturer, I think that would be impossible of adoption. How are they going to be trained—as civilians, or what? I speak as having commanded a Militia regiment for seven or eight years, and I say it would be impossible to get gentlemen to serve two years' training simply to obtain an appointment as second lieutenant in a Militia regiment. I know the difficulty of getting officers when they have no training at all to do beforehand, and I do not think there are any militia-men here who will contradict me.

Lieut.-Colonel E. GUNTER (late East Lancashire Regiment):—I will not pay compliments to so well-known an officer as Sir Richard Harrison for his admirable lecture. He begins his lecture very properly, if I may venture respectfully to say so, with how to get the men. That, I submit, is the crux of the whole question. Sir Richard has said that that can only be accomplished either by conscription or by voluntary enlistment. I venture respectfully to say that the system adopted abroad is no longer conscription—it is a minor point perhaps—but it has a different meaning. It is universal military service. There are a great many people in this country who favour universal military service, including a great many officers, some of whom occupy the very highest positions. I think that is a question which cannot possibly be left out of a discussion of this kind; but, if universal military service cannot be accepted, then I beg to bring before the meeting the proposals of the National Service League for universal military training, which is not to be confused with universal military service. It is a different thing. It appeals to the sporting element, and a great many of the young men of this country, especially the working men, are fully prepared to accept it. I cannot, on the present occasion, go into the details of the scheme. It is well known that the National Service League proposes, broadly speaking, that every young man between the ages of eighteen and twenty-five shall undergo a course of training, either for the naval or military service, to fit them for service in case of a great national emergency. This course of training can be easily arranged without disorganising the Regular forces, the Militia, or the Volunteers. Whether it should be carried out in connection with the Militia or the Volunteers, there is no doubt that every man should be trained. That, I think, is an acknowledged principle. We of the National Service League submit for your consideration that, if this were done, a certain number of men would automatically over-flow into the Line; a large number of men would

[1] An extremely severe one.—H.H.A.S.

automatically over-flow into the Militia; and a great many more still would, perhaps, over-flow into the Volunteers; and so without any absolute compulsion, excepting the obligation to train, the forces at the disposal of the Empire would be very largely increased. It would also form a reservoir of partially trained men, who could be called upon to fill the ranks in any case of national emergency. There are one or two other points that I should like to touch upon. First of all I should like to support Colonel Dooner in what he said with regard to the Militia officers. I am sorry Sir Richard Harrison excluded the Militia officers from the Regulars, as he said they should be obtained either from the Military Colleges or the Universities. I think the Militia officers during the time of the South African War came forward in a most gallant manner, and many of them to my knowledge, served for two years without commissions, and did very good service indeed. I cannot understand why Sir Richard Harrison suggests that Militia officers should require the same length of training as recruits, namely, two years. I would venture to submit that an intelligent officer would hardly require two years' training, although a recruit might. I should think one year or less would be quite enough before he presents himself for his examination. The next point that strikes me is with regard to the organisation. I do not want to take up too much time in regard to it. I think the double-company system which Sir Richard Harrison has brought forward may be a very economical one. Whether it would work, I and a great many others have our doubts. During thirty-three years' service I commanded a company for a long time. I do not think a double-company answers in this way, that, if you put two captains under a major, they are not in the same position of responsibility that a captain of a single company is in; they cannot be held responsible for the training of their men in the same way that captains of single companies would be. It would come to this, that the captains would have to refer almost everything to the major, which I think would very much impair their independence. If a larger company must be formed, I think it would be better to have six companies of 160 men each, each commanded by a captain or a major according to his seniority. It has been said that that is too large a company to command. I do not think it is. I have commanded a company of 160 men, and I found it very little more difficult to command a company of that size than one composed of only 100 men. A good company organisation is required in sections, each under an officer, there being four subalterns and one captain to each company of 160. As far as I understand it, Sir Richard's proposal is that there shall be one captain and one lieutenant to 120 men. I ask those officers who have had experience in the field, Is one officer to sixty men enough? because that is what it comes to. Can one officer manage sixty men in the field or properly train them? I am quite aware that a proposal has been made to substitute warrant officers for officers, to make up for the deficiency of officers; but it is not quite the same thing. Nobody values the warrant officer or the splendid non-commissioned officers that we have more than I do, because we owe so much to them; but warrant officers are not quite the same as commissioned officers, and to diminish the number of officers to that extent would be a fatal thing. Incidentally I may mention that if a large number of young men were compelled to train, a great many of these young men from the University and others would very soon qualify themselves for commissions, and I think that would go a good way towards solving the difficulty in regard to the dearth of officers.

With regard to the organisation of the higher units, as I myself ventured to propose in 1895, that every division should have three brigades as always giving the brigadier a solid compact force wherewith to make a flank attack or to keep as a reserve, I cordially support Sir Richard Harrison's suggestion that we should have three brigades, and if the third brigade could be a mounted brigade, so much the better; it will enable flank movements and attacks to be carried out. With regard to the question of scouts, the scouts are said to be mounted. Has Sir Richard considered the great difficulty of mounted men reconnoitring a position in the present day? I think it was found in the Japanese war that it was almost impossible. With regard to the divisional organisation, I should very much like to see the divisions increased to a strength of 12,000 men. Our divisions are too small. If a German general can command 12,000 men, why should not an English general? I cordially support the lecturer in his desire to have the number of Field Engineers increased.

Captain T. H. FALKINER (late Connaught Rangers) :—Unlike Colonel Dooner, I would like to be allowed to make one preliminary observation. As a soldier, I have been a member of this Institution for ten years. I address it to-day for the first time in a treble capacity : In the first place, that of a civilian; in the second place, as a candidate for Parliament; and in the third place, as a member of the Army League. I do not propose to go into the questions which have been dealt with at great length by preceding speakers, but I will endeavour to give to the meeting one, or possibly two, thoughts which I have come here to invite discussion upon. It seems to me that the whole question of Army reorganisation turns on the point of what we require our Army for. If you read the books on the subject by Mr. Amery, of the *Times*, Mr. Gwynne, Reuter's able correspondent, and the late much-lamented author of "The Absent-minded War," you will find that they all ask that question, which remains still unanswered, as far as I know, and to which I would humbly venture to give a reply. We require to organise our Army according to its strategical and tactical requirements, and I venture to suggest that the strategical and tactical requirements depend upon the conditions, that we require our Army to enable us as a nation to bring a superiority of force to bear at the decisive point. Then comes the question : What is the decisive point? The decisive point depends on the number of nations who are likely to oppose us. I therefore suggest that we reorganise our Army on the understanding that we have to oppose ourselves to the greatest conceivable combination. We then have to consider how we are to make our skeleton. I suggest that we make our skeleton—in other words, draw up our Army reorganisation—on the one principle that it should be capable of automatic expansion. That is to say, that we should be able to build it up storey upon storey *ad infinitum*. A previous speaker mentioned the question of conscription, and stated that it was a question that candidates for Parliament would not dare to approach. For myself, when going amongst those whom I hope will be my future constituents, I venture to say this, in reply to those who advocate conscription because other nations have adopted it : England refuses to adopt conscription, because amongst the nations of this universe England does not follow; she always takes the lead.

General Sir RICHARD HARRISON, G.C.B., C.M.G., in reply said:—I have just a few words to say in explanation. My chief object in reading

this lecture to-day was to deal with the subject as a whole. I wished to put the whole question down in black and white before the members of this Institution, and in doing so I think it is very probable that I have omitted certain points of detail which I could have gone more into if I had not had such a very big subject before me. But even if I had gone into questions of detail very carefully, one cannot expect that in a big subject like this there should not be certain points on which we are not all agreed. I do not think there is anybody who could produce a scheme to which everyone would entirely agree. It is absolutely necessary, if this great question is ever to be tackled, that the best men the country can produce should come together and formulate a scheme that the country would have confidence in. Private opinions should then be put on one side, and all should agree to pull together and do their best to carry out the scheme that the Government provided. I will just say one word in regard to the remarks which have been made. Colonel Dooner agrees that, for the present at all events, the voluntary system ought to be tried and made the best of. Colonel Dooner then went on to refer to large depôts. I cannot go into this question and argue it out with him now; but I shall be very happy to meet him and talk it over some other time In that part of my lecture that deals with training, I went into the question of depôts. What I said generally was that there are two systems of depôts, viz.: that of feeding one battalion from another, or that of having a separate depôt. There are advantages and disadvantages in both systems. The system of feeding battalions from one central depôt has succeeded extremely well with the Guards and the Rifles. I do not know that it has ever been tried in other regiments[1]; I have never heard of it yet. Colonel Pollock agrees also, I think, generally with what I said. Sir Robert Biddulph made some remarks in regard to the Militia. He has his opinion about it; but my opinion has always been that it is rather hard for a fine force like the Militia to act simply as a recruit supplier to the Line. I have always thought, and still think, that the Militia could be so organised and so improved that it could form a fighting defensive force of its own, and also be available to go abroad if wanted. Other nations have a force really very little different to a Militia one. The Swiss have a force which is almost nearer a Volunteer than a Militia system, and many foreign Armies have little if more training than the force that I propose we should have.

Lieut.-Colonel E. GUNTER, *p.s.c.* (late East Lancashire Regiment):—In foreign Armies, all the old soldiers are in the Militia; they pass through the ranks.

Colonel H. H. A. STEWART (late Donegal Artillery, Mil.):—I should also like to ask the gallant General what the Swiss Army has ever done in the field.

General Sir RICHARD HARRISON:—At any rate we know this, that it has defended its country for a good many years. Colonel Gunter talked about universal military training, and I do not think I have said a word against that in my lecture; I alluded to it to a certain extent under the head of Training. I do not think I have anything more to say, except to thank you for the cordial manner in which you have received my lecture, and especially to thank those who have criticised it.

---

[1]A depôt battalion is not a depôt in this sense.—R.H.

The CHAIRMAN (the Earl of Donoughmore) :—The very pleasant duty devolves upon me as Chairman to propose a hearty vote of thanks to the lecturer for his most interesting lecture. What little I intended to say has more or less been covered by previous speakers. Sir Richard Harrison set himself a very agreeable task. He started with a mind imagining a blank sheet as regards Army organisation, and he proceeded to build up that organisation step by step and place it before us; and I think we can all congratulate ourselves that the result of the building up has been an organisation very similar to the British Army as it is at the present day, and it will be much more similar to the Army at the present day when certain modifications which are immediately projected are carried out. This being the condition of affairs, it naturally follows that except perhaps for a detail here and there, it has not fallen to the lot of any speaker to fall very much foul of the scheme put forward by the lecturer. I myself wish for a few minutes to refer to two points which have not been touched upon by previous speakers—one in a spirit of agreement, and one in a spirit of perfect disagreement. Sir Richard Harrison has advocated what is known as the special service section of the Volunteers. I hope he will not take it unkindly when I say that I hope the idea of a special service section in any part of the Auxiliary Forces is dead and buried for ever. And why? What does the special service section mean? It means a collection in a regiment of all the best men of the regiment; and the minute you want that regiment to take its share in active warfare, you take the special service section away to the Regular Army. You take all the best men out of the regiment and leave the regiment without its best men during the most important part of its life, when it has to carry out the duties of actual warfare. It has always seemed to me that that has been a bad theory in the past. The same theory applied in the old Militia Reserve, by which the best men of the Militia were drafted into the Line immediately the Army went to war, and I sincerely hope we shall not go back to that system again. On the other hand, I was extremely glad to hear what Sir Richard Harrison said on the other point to which I wish to direct attention, viz. : that with regard to the organisation of the Royal Engineers, his own distinguished corps. There is no doubt that the Russo-Japanese War has taught us—even more than we learned in South Africa—that it is almost impossible to contemplate the development which will undoubtedly occur in the future, with regard to military engineering. There is undoubtedly a tremendous future before military engineering such as we never dreamed of in the past, and equally there will have to be a tremendous reorganisation in our methods of dealing with the Royal Engineers. We do not know yet the exact lines upon which that reorganisation will take place, but I am glad to know that so distinguished a member of the Corps of the Royal Engineers recognises already that that reorganisation has got to take place; and with that spirit existing in the corps it will make the reorganisation very much easier to carry out. Before I sit down I think it is my duty to take up one challenge which has been thrown out with reference to the subject of compulsory service. The old figure with which we are all so familiar, the 26 millions, was mentioned, and it does not seem to be realised what that 26 millions was meant to illustrate. The question was asked: What would be the cost of training 340,000 men for one year in the same way as we now train the Regular Army at home? And the answer was: "26 millions, if you give them a shilling a day." Now our friends, the advocates of compulsory service, say: "Pay them

nothing." Very well, pay them nothing, and do you know how much you reduce the sum by? The soldier's pay is, roughly, one-third of his cost, and that still leaves you with about 16 or 17 millions as the cost. Again, 340,000 I admit might be too large a number, a larger number than we might want. Halve it, and you still have an increase of 8 millions in the Army Estimates.

Lieut.-Colonel E. GUNTER :—Half the number that came forward would be unfit; that has been proved over and over again.

The CHAIRMAN :—There are 340,000 young men in the country who attain the age of eighteen every year. Allow half as being unfit and for the few who go into the Navy, and that leaves you 170,000. Take it at 150,000, the very least it would cost you for that number for barracks for them, for proper officers to train them all the year round, including non-commissioned officers, would be 7 millions a year—the figures have been very carefully gone into—which would mean 3½d. on the income-tax, and I do not think any Government would face that yet.

Lieut.-Colonel E. GUNTER :— It would not cost so much to train them as it would to train Regular troops.

The CHAIRMAN :—Then will they be good enough to face foreign soldiers?

Lieut.-Colonel E. GUNTER :—I think if they were trained for six months in the first year and two months in successive years that would be enough.

The CHAIRMAN :—I am taking the report of the Royal Commission, which recommended one year, and which the figures that have been quoted were meant to illustrate. You must also remember that if the men were given only six months' training it would not simply halve the estimate, because I do not think you would get officers to train men for six months and do nothing for the remaining six months.

Lieut.-Colonel E. GUNTER :— Have you taken into consideration that you could reduce your Regular Army?

The CHAIRMAN :—Certainly you could not take 3½ millions off what you spend on the Regular Army. That I absolutely deny; 3½ millions is a very large sum, and the Army even now has not got all it wants. I only mentioned this point because I thought it was my duty to do so, and because I think it has not always been quite realised what the 26 millions was meant to illustrate. It was not meant as an estimate of the cost of all the schemes of compulsory service that have been put forward; it was mentioned in connection with the particular one which was under consideration at the time, which is not the general scheme which is put forward by all advocates of compulsory service. I merely ask you now to pass a hearty vote of thanks to the lecturer for his exceedingly interesting lecture.

THE SIEGE OF PORT ARTHUR FROM A NAVAL ASPECT.

By Mr. A. CURTIS[1]

(*Special War Correspondent of the Chicago "Daily News"*).

Friday, 10th November, 1905.

Admiral the Hon. Sir EDMUND FREMANTLE, G.C.B., C.M.G., etc., who was to have presided, having been unexpectedly summoned to Court, the Chair was temporarily taken by Commander W. F. CABORNE, C.B., R.N.R.

IT says much for the open-mindedness of the members of this great and useful Institution which so happily links the present with the past, the military questions of the day with the mighty struggles by land and by sea to which the British people owe their independence and their power, that civilians should be invited to attend here from time to time to address gatherings of naval and military officers upon special features and incidents of great military and naval undertakings. That the honour is greatly valued need not be said. For my own part, I can but hope that what I have to say may serve to throw a little additional light on the conditions of a contest whose details were obscured rather than revealed by not a few of the newspaper despatches published. I propose, in the first place, to give you a sketch of the naval work connected with the siege of Port Arthur, and, in the second place, to touch briefly upon the lessons that may be deduced from a careful study of the various operations, and the conditions under which those operations were conducted. For the conditions, no less than the results of the operations, were most noteworthy.

As you know, the first staggering blow in the war was delivered by the Navy. That was on the night of the 8th February, 1904, and on the following day Admiral Togo made his first attack upon the stronghold. From that date on to the middle of December, in other words almost to the end of the siege, the pick of the Japanese Navy kept watch and guard over the Port, maintaining an effectual blockade, which undoubtedly expedited the downfall of the so-called impregnable fortress. It is quite correct, therefore, to say that the Navy shares with the Third Imperial Army the glory of the re-capture of a port which strangely enough bears an English Naval officer's name, although it had been a naval base of the Chinese for two or three centuries. The fortress and fleet at Port Arthur engaged Togo's attention from that eventful day in February (6th) when he received orders to put to sea—because all the

[1] Mr. Curtis is Editor of the Kobe "*Daily News*," and has resided over 14 years in Japan.

painstaking efforts of the Tokio statesmen had failed to avert war—until the 20th of the following December, when he spent two hours in General Nogi's camp and went personally to 203 Metre Hill to satisfy himself—I use his own simple words—that "the main strength of the Port Arthur Squadron had been practically destroyed, leaving only the insignificant gun-boat 'Otvajny' and a few destroyers." The naval operations extended over a period of ten months, whereas the military operations on shore lasted from the middle of May (the battle of Nanshan was fought on 26th May) until the 2nd of January, a period of seven and a half months.

I have said that the circumscribed harbour to which we gave the name of Port Arthur in 1860 after Lieut.-Commander W. Arthur, of H.M.S. "Algerine," was a recognised naval base of the Chinese long years before. Some very interesting facts were given me on this point by Professor Shiga during my sojourn with General Baron Nogi's Army. Professor Shiga, who, by the way, regrets that the poetic side of war is not made more of by correspondents and historians, is a well-known Chinese scholar, whose love of alliteration has relieved the monotony of many a weary hour in camp. I am indebted to him for the information that Liujun-kau (*kau* means mouth) or Riojun Ko, as the Japanese pronounce it, had a history of its own long before it acquired prominence in the eyes of Occidentals by reason of the fortifications and works erected there by Von Hanneken under the direction of the late Li Hung Chang. It was a recognised anchorage and place of call for war junks 250 or 300 years ago, and a garrison was quartered in the town of Suishiying, which is situated about two miles inland. In an old Chinese work entitled "Ming Etoshi," a history of the Unification accomplished by the Ming Dynasty, there is this reference to the town and fort: "Liujun-kau lies 120 *li* south of the castle of Kinchau. Since ancient times transport vessels have been accustomed to anchor here. At the present time there is a garrison of seamen at Suishiying. In the present dynasty the war-vessels have been stationed at Liujun-kau and a garrison has been kept at Suishiying." This work, which dates back about 250 years, was republished in the very early days of the present dynasty. But this claim respecting the comparative antiquity of the place does not rest upon the work referred to alone. Prominent amongst the shell-destroyed ruins of Suishiying there stood for some weeks a large temple. The walls were riddled in places with Russian shells, and almost all the images were in pieces. For a long time the largest wooden statue—one erected to Kwang-yu, the War-god of the Chinese in garrison at Suishiying prior to the Japan-China War, remained in position and intact, save for a rifle bullet through the breast, but before the great forts on the east fell this, too, was destroyed, leaving only the large stone tablet on which is inscribed the dedication. This inscription, which has happily escaped the ravages of war, tells us that since the temple was established 160 or more years have elapsed. Now, this tablet was erected by the Chinese prior to 1894, so the temple cannot have been less, though it may well have been more, than 170 years old. I have said enough to show how very ill-founded is the idea—still prevalent in some quarters—that the history of Port Arthur dates from its conversion into a modern naval fortress by the Viceroy of Pechili. We should never have fallen into the mistake of supposing that the port was nameless and unknown had the earlier visitors possessed a little more

knowledge of China, for when the "Algerine" anchored there in 1860, as Paymaster-in-Chief Blakeney tells us in his recently published record of surveying service on the coasts of "Cathay and Cipango," a "fleet of junks" was seen "near what appeared to be a strongly built fort," and it was noticed that "they were painted differently to the trading junks." These boats that the British officers saw on 30th June, 1860, were almost certainly Chinese war junks. No one who has seen a Chinese war junk will be in doubt on this point. I have gone somewhat fully into this matter, because there are still many who believe with the author of the work I have referred to, that the Chinese Government did not know of the existence of the place "till it was revealed by an Englishman."

When Vice-Admiral Togo steamed out of Sasebo on 6th February, he had with him the First, Second, Third, and Fourth Squadrons. The Fourth, commanded by Rear-Admiral Uryu, proceeded to Chemulpo. Vice-Admiral Togo flew his flag on the "Mikasa"; with him were the battle-ships "Hatsuse," "Asahi," "Shikishima," "Fuji," and "Yashima"; the armoured cruisers "Idzumo," "Tokiwa," "Adzuma," "Yakumo," and "Iwate"; the cruisers "Yoshino," "Takasago," "Kasagi," "Chitose," and "Tatsuta" and torpedo-destroyer flotillas Nos. 1 to 4. On the 7th, the day after the combined fleet put to sea, the cruiser "Tatsuta" overhauled and captured the Russian Volunteer Fleet steamer "Rossia," a few miles from Nine-Pin Rock. It was the initial act of war and an omen of success, the bluejackekts on hearing particulars of the prize, shouting "Russia is taken," "Russia is captured." The rendezvous of the fleet was at Yuen-tao, and on 8th February, between 6 and 7 o'clock in the evening, three torpedo-destroyer flotillas, consisting of the "Asashio," "Shirakumo," "Akatsuki," "Kasumi," "Ikadzuchi," "Oboro," "Inadzuma," "Usugumo," "Shinonome," and "Sasanami" were sent in to attack the Russian fleet anchored in the outer roadstead under the great forts on Golden Hill. A fourth was despatched to Talienwan. As the boats left, the Commander-in-Chief signalled: "Blow up the enemy's squadron; I wish you all success." The bulk of Russia's naval force in Asiatic waters was anchored outside Port Arthur that night. There were six battle-ships: the "Petropavlovsk" (flag-ship of Vice-Admiral Stark), "Tsarevitch," "Retvisan," "Sevastopol," "Poltava," and "Peresviet" (flag-ship of Rear-Admiral Prince Ukhtomsky); six cruisers,—the "Pallada," "Bayan," "Diana," "Askold," "Novik," and "Boyarin"; and several gunboats and torpedo craft. All were anchored to the east of the entrance of the harbour, the battle-ships having the inside berths. The ships were anchored in three lines. It is worthy of note that the torpedo-boats had been out on patrol duty only a few hours before the attack was made. War, in short, was expected; but it was not expected that the Japanese would have the temerity to strike the first blow. The Russian Commanders shared their Viceroy's amazing confidence in the assumed inferiority of their prospective foe. Their attitude towards the Japanese was one of overweening confidence and lordly contempt —a sure precursor of discomfiture and defeat. As the ten destroyers steamed away from the fleet they signalled, in reply to the Admiral's message, that they would either succeed or perish in the attempt. Three Russian picket boats were sighted on nearing the port, but they were too far off to do any mischief. When well inside their position, a course was shaped for the mouth of the

harbour, with the idea doubtless of deluding the look-out men into the belief that some of their own destroyers were returning. When abreast of the middle line, the leading destroyer turned swiftly to the east, setting a course for herself and consorts that took them midway between the battle-ships in shore and the cruisers. Each marked down their vessels, and on getting abreast discharged torpedoes right and left. Then and then only was the meaning of the presence of the deadly little vessels realised. Three muffled explosions followed. The Russian ships opened fire with their 12-pounders and rapid-firers; searchlights flashed wildly in all directions, but the destroyers safely ran the gauntlet and rejoined the fleet, although the forts also opened fire as they steamed away. They had successfully torpedoed two of the finest of the Russian battle-ships—the "Retvisan" and "Tsarevitch"—and the first-class protected cruiser "Pallada." The "Tsarevitch" was struck under her port quarter, near the stern, the "Retvisan" had an enormous hole torn in her port bow, and the "Pallada" was struck under the starboard quarter. The battle-ships were only saved from sinking by being run ashore near the entrance to the harbour, while the "Pallada" was also beached and then towed inside the harbour. There was very little loss of life on either side. One of the Japanese destroyers—the "Oboro"—was damaged in a collision with the "Inadzuma," and had to return to Sasebo for repairs. The flotilla sent into Talien Bay failed to get into touch with the enemy.

Early the next morning the cruisers "Chitose" (flying the flag of Rear-Admiral Dewa), "Chihaya," "Takasago," and "Tatsuta" ran in to reconnoitre. Their appearance in the offing led the Russians to suppose that another attack was intended. Upon this Vice-Admiral Stark decided to get his ships under way. He still had the "Petropavlovsk," "Pobieda," "Poltava," "Sevastopol," and "Peresviet" (battle-ships), "Diana," "Askold," "Bayan," "Novik," and "Boyarin" (cruisers). With this formidable force he started in pursuit of the Japanese cruisers. By 8.20 the whole available Russian fleet was steaming in the direction of Dalny, keeping well in shore. Within an hour the ships returned to the anchorage, and actually dropped the same great mooring anchors which had given them much trouble to weigh earlier in the morning. Two of the cruisers were sent out as scouts. These returned at 10.35 with the report that the Japanese fleet was approaching. The order of attack was signalled from Togo's flag-ship at 11 o'clock. Luncheon had just been served, and the Admiral and his staff were drinking the Emperor's health when an officer reported that the enemy's fleet was in sight.

Leaving Round Island on the starboard hand, the fleet steamed in towards the anchorage in single line ahead formation, the "Mikasa" leading, followed by the "Asahi" and four other first-class battle-ships, the six first-class armoured cruisers and the four second-class cruisers already mentioned. The action was commenced by the Russians, one of the forts opening fire at 11.30, when the Japanese fleet was about seven miles from the shore. The attacking fleet was steaming at a speed of 15 knots. Thirty-nine minutes later, when the two fleets were about four miles apart, the "Mikasa" opened fire with her port 12-inch gun in the forward barbette. The Japanese gunners got the range with remarkable accuracy, the first shell hitting the battle-ship "Poltava," and causing her to list heavily to port. Close by this battle-ship 17 torpedo craft were lying; all these took

refuge inside the harbour. Notwithstanding the use of scouts, there is reason to believe that Vice-Admiral Stark was again caught at a disadvantage, as the battle ships were slowly weighing anchor, when the Japanese fleet first hove in sight, washing their cables and trying to get their great wooden-stocked mooring anchors fished. No attempt was made to slip their cables. No anxiety was shown to get the ships under command. One eye-witness says that the crew of one three-funnelled battle-ship—either the "Peresviet" or "Pobieda"—was still engaged in throwing beds and bedding and lumber of all sorts through the midship gun ports as the ship gained headway. When the action began, the Russian ships were in a bunch and more or less helpless, only the cruisers having got clear. An auxiliary cruiser, one of the steamers of the Russian Volunteer Fleet, got under way with less delay, and steamed out half a mile beyond the battle-ships, but she found things so hot there that she had to put about. Strange to say she escaped destruction. The battle-ships never attempted to engage the foe, remaining all the time close in under the heavy guns of the forts on the headlands. The cruisers fought well, notably the "Novik," whose commander handled her in a very plucky manner, much to the admiration of the Japanese. During the action the cruiser "Askold" had her after funnel and main-topmast shot away. The cruiser "Pallada" took part in the engagement, although aground. A 10-inch shell from one of the Russian ships struck the first-class cruiser "Iwate," and another struck the battle-ship "Fuji," killing Lieut.-Commander Yamanaka and a second lieutenant. A midshipman of the "Hatsuse" was cut almost in two by a fragment of a shell, and a 10-inch shell struck the fighting-top of the "Mikasa." There were a few casualties also on board the "Yakumo" and "Shikishima." The "Asahi," "Yashima," "Idzumo," and "Adzuma" escaped without a scratch. Four of the Russian ships—the "Poltava," "Diana," "Askold," and "Novik"—were badly damaged about the water-line. The action lasted about 50 minutes, the Japanese fleet steaming across the Russian front in perfect order shortly before one o'clock. Some damage was done on shore by the bombardment, and for a time panic reigned on all sides. Three hours after the bombardment the Government took charge of all stores and provisions. Many houses of business were closed permanently, their chiefs having fled northward. The railway station was besieged by people anxious to get away. Port Arthur, in short, was demoralised, and there is every reason to credit the statements of Russian officers after the capitulation—that had the Japanese attacked the fortress resolutely in the early days of the war, the place must inevitably have fallen. The defencelessness of the stronghold even impressed the authorities. In all, nine shore batteries took part in the engagement, chiefly those on Golden Hill and Electric Hill, which used mortars and 9-inch guns. There were a few casualties in the forts. In the fleet the Russian loss was 4 officers and 21 seamen killed, and 97 men wounded. The most striking feature of the action, beyond question, was the valiant part played by the swift, mastless cruiser which embodied the ideas of, if she was not to all intents designed by, Admiral Makaroff — the "Novik." Her commander (Captain von Essen, the same officer who afterwards handled the "Sevastopol" so well) drove her to comparatively close quarters, and pluckily kept her there until disabled by a shot from one of the Japanese ships. The little "Novik" alone won the admiration of the chivalrous foe. Several of the Japanese officers testified to the splendid

way in which she had been handled, and this generous statement was destined to find renewed expression some months later when, after the battle of 10th August, the dauntless cruiser ran the gauntlet of the Japanese fleet, and successfully reached home waters ten days later.

Students of naval tactics will assuredly have much to say respecting the vast contrast afforded by the movements of the two fleets. On the one side we have a picture of order and adherence to prearranged plans, eye-witnesses of the engagement testifying that the Japanese ships steamed in in regular order, every ship in her own place, single line ahead, the whole movement being carried out with the precision of an ordinary manœuvre in time of peace; while, on the other hand, the Russians made no pretence of either keeping formation or engaging in concerted action during the battle. We know that one battle-ship, and at least one cruiser, manœuvred independently, and it is equally clear that a majority of the ships kept close in under the land fortifications. It is true that the Russian account of the operations states that when the approach of the Japanese fleet was signalled on the morning of the 9th, "everything was ready to repulse the enemy"; that all the ships, "under full steam, were ready to engage"; and that "at the beginning of the battle our ships were all in one line, but they presently drew up in double formation." This would seem to indicate that the Russian Commander-in-Chief really had a definite plan of action on the eventful day, whereas his actual course suggests rather that if he had such a plan it was of an essentially negative kind, being, as events proved, to keep close in shore under the fortified and friendly headlands, and await attack. The issue might have been foreseen. Had Vice-Admiral Stark ventured forth to meet his enemy, despite an obvious disparity of strength, the whole course of the war might have been altered. With the "Pobieda," which Admiral Alexieff mentions as having been in the leading line (*vide* official despatch published in St. Petersburg on 18th February—no allusion is made to this ship in any other account), Stark had five efficient battle-ships to oppose to Togo's six first-class battle-ships, and five cruisers of different types and power, to meet five first-class armoured cruisers and an equal number of second or third-class cruisers. The outcome of a fight on these terms could hardly have been favourable to the Northern Power; but, on the other hand, it is in the highest degree improbable that, had the Russian Admiral boldly steamed out to intercept Togo as he steamed up from the eastward, the Japanese fleet would have escaped without losing some of its strongest units. Admit that such a course would have been to court destruction, can it be supposed that it would not have crippled the Japanese fleet? And, with that fleet crippled, with as many ships sunk, or even almost as many sunk as the Russians would have lost, under this hypothesis, would Japan have so easily maintained her supremacy at sea? There can be but one answer to this, I think, and that is my reason for holding that the interests of Russia demanded such a frightful sacrifice of ships and men on the part of Vice-Admiral Stark, as a sea fight *à outrance* on the morning of 9th February, 1904, would unquestionably have meant.

Fortunately for Japan, the Russian Commander-in-Chief was as deficient in initiative as in daring.

During February two more movements were made by the fleet against the defences of the stronghold — a torpedo attack on the morning of the 14th and a blocking expedition during the night of the 23rd.

The torpedo attack on the 14th February was entrusted to the Fourth Flotilla, which, it will be remembered, was sent into Talien Bay on the occasion of the first attack on 8th February. Not having had an opportunity to win signal distinction when the first great blow was delivered, Commander Nagai, who was in command of the Fourth Flotilla, consisting of the "Hayatori," "Asagiri," "Murasame," and "Harusame," was given the privilege of making the second attack. The time chosen was the small hours of the 14th. A heavy gale was blowing when the four destroyers left the fleet on 13th February, and to add to the difficulties of the run, a severe snowstorm set in. Owing to this, the boats lost each other *en route*, and two of them, the "Harusame" and "Murasame," failed to make the harbour mouth. The "Asagiri," in command of Lieutenant Ishikawa, reached her appointed destination at 3 o'clock, only to be at once recognised and shelled, both ports and war-ships opening fire upon her as she ran in towards her intended prey—one of the larger ships of the enemy. She discharged a torpedo at the vessel singled out for attack, but it went wide of the mark. The "Asagiri" then steamed away, giving some picket-boats a broadside as she passed out. Two hours later the "Hayatori" made the anchorage, and, getting close in under cover of darkness, fired a torpedo, which exploded with terrific force alongside a war-ship.

According to the Naval Department in Tokio, this war-ship was the second-class cruiser "Boyarin." It is very doubtful, however, if it was the "Boyarin." This vessel came to grief a little more than a month later, viz., on 16th March, when she sunk as the result of striking one of their own mines. The majority of the crew perished. It is not improbable that the cruiser torpedoed by the "Hayatori" was the steel twin-screw armoured cruiser "Bayan," launched at La Seyne in 1900. It was not possible to ascertain the extent of the damage inflicted, but as the "Hayatori" was no less fortunate than her consort in getting away safely, the attack must be regarded as a success. As the Commander-in-Chief remarked in his official report to Imperial Headquarters, even if none of the enemy's ships were destroyed, the moral effect of the attack is not to be lost sight of.

A few days later, the bulk of the enemy's fleet having been compelled to take refuge in Port Arthur, several of them being in a badly damaged state, Vice-Admiral Togo made a daring effort to block the mouth of the harbour. Only the cruisers "Novik," "Askold," and "Bayan" and a few torpedo destroyers had been seen outside for some days, the battle-ship "Retvisan," aground inside the light-house on the western side of the entrance, still obstructed the fairway. Five merchant-steamers, the "Jinsen Maru" (2,330 tons), "Tenshin Maru" (2,934 tons), "Hokoku Maru" (2,766 tons), the "Buyo Maru" (1,063 tons) and "Bushu Maru" (1,248 tons) had been brought over from Osaka with a cargo of stones and handed over to the fleet. Small naval crews were put on board, and everything was made ready for one of the most reckless enterprises recorded in the history of naval warfare. In all seventy-seven men and officers were required for this forlorn hope, and it is significant of the fine ardour and devotion of the Japanese seamen that more than two thousand volunteered for the undertaking. One of the petty officers—son of a small farmer in Mino Province—wrote his application for permission to take part in the expedition in blood taken from one of his fingers. Before the doomed vessels were sent away, farewell ceremonies were held on board

the war-ships from which the volunteer crews were drawn. At the formal leave-taking on board the armoured cruiser "Asama," Captain Yashiro addressed the men in the following terms:—

> "In sending you on this expedition to block the entrance to Port Arthur, an expedition in which the chances are a thousand to one against your returning alive, I feel as I should were I sending my own sons. Had I 100 sons I would send them all on such a bold adventure, and had I but one son, gladly would I devote his life to such an end. In the discharge of your duty work with all your might. If you lose your left hand, rely on your right; if you lose both, work with your feet; and if you lose your feet, trust to your head to execute faithfully the orders of your commander. You are going to the place of death. I have no doubt that you are quite ready to die. Nevertheless, do not suppose that I would advise you to despise your life or run unnecessary risks in hope of winning signal renown. What I do ask you to do is to execute your duty regardless of your lives. This cup of water which I give you is not meant to serve as an encouragement, but as a symbol of your fitness to uphold the glory of the "Asama." It would indeed be a shame if any of us needed Dutch courage to go to the place of death. If you return in safety, your perilous work successfully achieved, I shall rejoice. Submit your life to the will of Heaven, and calmly perform your dangerous duty."

The flotilla of transports was under command of Commander Arima, of the flag-ship "Mikasa." The five steamers left the naval base late on 23rd February, convoyed by a number of torpedo destroyers and torpedo-boats, and arrived off Port Arthur at 2 a.m. on the 24th. After the destroyers had reconnoitred the ground, the doomed merchantmen were driven in at full speed. By this time the enemy were on the alert. Electric search lights lit up the roadstead along four distinct, constantly varying paths, and a hot fire was kept up from the forts on Golden Hill, Mantaushan, and Tiger's Tail, and from the stranded war-ship "Retvisan." The first vessel to come to grief was the "Tenshin Maru," which, in endeavouring to avoid the searching rays of the electric lights, ran into shallow water and stranded on the eastern side of Liaotishan. The "Bushu Maru" and "Buyo Maru" were not much more successful. A shot from one of the forts struck the former's steering gear, and the ship, becoming unmanageable, her commanding officer ran her ashore not far from the "Tenshin Maru," and blew her up. The "Buyo Maru" also was so badly cut up by the enemy's fire that she was headed for the shore and destroyed before getting anywhere near the harbour mouth. The "Hokoku" and "Jinsen" were more fortunate. Advancing in face of a terrific fire, both these vessels succeeded in making the entrance. When close to the lighthouse on the western side of the entrance, the former was blown up, while the "Jinsen Maru" was sunk about 2½ chains S.E. by E. of the "Hokoku Maru." Every man on board the "Tenshin Maru," "Buyo Maru," and "Bushu Maru" was rescued by the torpedo-boats in attendance, but the crews of the "Jinsen Maru" and "Hokoku" were not picked up until the afternoon of the next day, after several hours' buffeting about in a heavy sea. Owing to the severity of the Russian fire and the vigilance of the guards in

charge of the electric search-lights on shore, it was found impossible to communicate with the torpedo-boats. Their only safety lay in keeping in under the bluffs. Commander Hirose, of the "Hokoku," greatly distinguished himself on this occasion. He drove his ship close into the entrance and there blew her up. Hardly had all on board jumped into a boat than the commander discovered that he had left his sword behind. Instantly returning to the ship to secure his weapon, he barely managed to regain the boat alongside when a terrific report rent the air; a minute later the "Hokoku" disappeared in deep water. It cannot be said this expedition accomplished the end which Vice-Admiral Togo had in view, as the entrance still remained open; but it undoubtedly afforded the world a striking example of the wonderful loyalty and devotion to duty which characterises the Japanese. Contrary to all expectation the work was effected at surprisingly small cost, the casualties on the five vessels being three men wounded.

A few hours after the operations recorded above (at 10 a.m. on the 24th February), the Japanese fleet arrived off Port Arthur and endeavoured to cut off the retreat of the plucky little cruiser "Novik" (then flying the flag of the Russian Commander-in-Chief) and five destroyers, which were returning from Lao-ti-shan promontory, but the movement was not successful, although serious damage was inflicted by the fire from some of the ships. One 12-inch shell struck the "Askold" and put two guns out of action, and one of the "Bayan's" funnels was destroyed. The casualties on the Russian ships were 22 killed and 41 wounded, and in the forts 3 killed and 18 wounded. There were no casualties in the Japanese fleet. When night drew on a torpedo destroyer division was sent into the roadstead, while two other divisions of destroyers were despatched to Pigeon Bay and Dalny. Neither of the latter divisions encountered the enemy, but the first one made an attack on some ships outside of Port Arthur in face of a heavy fire. It is, however, doubtful if anything was accomplished by this night attack.

The next day at 9 a.m., Vice-Admiral Togo again appeared off the stronghold, and opened fire on the cruisers "Novik," "Askold," and "Bayan," which were anchored just outside the harbour. Sharp cannonading was kept up by both ships and forts for about 20 minutes, the Japanese ships continuing the bombardment until the enemy's cruisers retired into the inner harbour. During these operations some of the scouts attached to the Japanese fleet fell in with two of the enemy's destroyers and gave chase. One of the Russian boats was driven into Pigeon Bay and there destroyed, but the other succeeded in getting away.

In his report on the operations here referred to, Vice-Admiral Togo expressed the opinion that the aim of the Russian Commander-in-Chief was to lure the Japanese ships in near the roadstead, where they would have been exposed not only to the cross fire of the forts on the headlands, but also to submarine mines. In this connection mention must be made of the loss of the mine-laying steamer "Yenissei" in Talien Bay. This disaster occurred on the 12th February, while she was engaged in laying down contact mines for the protection of the harbour of Dalny. Great stress was laid by the Russian authorities on the unique value and importance of this unfortunate vessel and a sister-ship, the "Amur," which was destined to fall into the hands of the Japanese on the capitulation of Port Arthur.

Both vessels were designed for service as transports also. According to one of the survivors, the "Yenissei" was driven on to a mine by the wind and current. An enormous hole was torn in the ship's bows, and the captain (Itepanoff, a gallant fellow who would seem to have merited a better fate), seeing that his ship was doomed, gave the order *sauve qui peut*. He refused to leave the ship himself, and went down with her. His last words were: "Good-bye, my lads; save yourselves, don't trouble about me." Evidently one of the men who might have given, had they had the opportunity, a less inglorious colouring to the records of his country's naval operations in the Russo-Japanese War. Three officers and 91 men were lost in this disaster. The wreck of the "Yenissei" was still visible on South San-shan-tao when I entered the bay in the transport "Tosa Maru" in October—eight months after she was "hoist by her own petard."

A brief period of inactivity now supervened—not improbably as a consequence of the fact that several of the Japanese war-ships were sent north to Vladivostok, under Vice-Admiral Kamimura, to bombard that naval base. Active operations were resumed on the 10th March, shortly after the arrival of Vice-Admiral Makaroff, who, in obedience to orders from St. Petersburg, left Cronstadt on the 10th February to relieve Vice-Admiral Stark. Strangely enough, one of the first steps taken by the new Commander-in-Chief was intended to effect precisely the end for which his great rival had sacrificed five valuable merchant-vessels rather more than a fortnight before, viz., the blocking of the harbour entrance. For this purpose the Russian Admiral sent out two steamers of the Eastern Chinese Railway Company laden with stones and sunk them close to the fairway. In addition booms were laid down. By these means the available channel, which was marked with buoys, etc., was reduced to less than 350 feet.

Vice-Admiral Togo's plan of operations now provided for another attack by destroyers, under cover of the battle-ships and cruisers, while a second flotilla of destroyers, under command of Lieut.-Commander Tsuchiya, ran in and strewed the channel with contact mines. The destroyers made the outer roadstead between twelve and one o'clock in the night of 9th-10th March; there were no signs whatever of the enemy outside of the harbour. The destroyers "Akebono" (Commander Kutsumi) and "Sazanami" (Commander Kondo) at once proceeded with the work of mine-laying. They had not been long engaged before they attracted the attention of the guards on shore, and drew the fire of several coast batteries. Notwithstanding this, the work was completed. Meanwhile, the destroyers "Asashio" (Commander Matsunaga), "Kasumi" (Commander Oshima), and "Akatsuki" (Lieutenant Suyeji) steamed away westward towards Lao-ti-shan, and there encountered a flotilla of six Russian destroyers. This was at about 4.30 a.m. A fierce fight at close quarters ensued, the hostile boats at times almost touching each other. Both sides suffered severely, and fires broke out on board one or two of the Russian vessels. After fighting for twenty minutes the enemy withdrew and endeavoured to make the harbour. On the way in, two of the boats were sighted by the "Sazanami" and "Akebono." Changing their own course so as to intercept the fugitives, the Japanese boats compelled the enemy to accept battle. The engagement lasted the greater part of an hour, and one of the Russian boats — the "Steregustchi" — was terribly crippled. The other managed to get away. During the hottest

part of the action, Sub-Lieutenant Yamazaki jumped on to the "Steregustchi's" deck and ran up the Japanese flag. An officer and two men were killed and four wounded on the Japanese boats. The "Sazanami" took the prize in tow, but had to abandon it finally, after rescuing four of the crew. The "Steregustchi," flying the Japanese flag, sank at 10.15 a.m., after a futile move to re-capture her had been made by the cruisers "Novik" and "Bayan." During the earlier engagement off Lao-ti-shan a steam pipe on board the "Akatsuki" was severed by a shot from one of the enemy's boats, and four men were scalded to death. The total casualties on the Japanese side were fifteen killed and wounded. It is worthy of note that Vice-Admiral Makaroff was in one of the destroyers engaged in scouting outside of the harbour on the night of the 9th. The Russian Commander-in-Chief regained the harbour at dawn, and lost no time in transferring his flag to the cruiser "Novik," which, with the "Bayan," made an abortive attempt to succour the "Steregustchi."

The same day (10th March) at 8 a.m. the Japanese cruiser squadron appeared off the fortress, in time to frustrate the Russian Admiral's attempt to succour his hard-pressed destroyers. The main body of the Japanese fleet steamed towards Lao-ti-shan, and from this less exposed position opened fire on Port Arthur. This bombardment lasted from 10 a.m. until 1.40 p.m. Shells struck the battle-ship "Retvisan," a cruiser, the hospital-ship "Mongolia" (the position of which was quite unknown to the Japanese gunners) and several of the seaward forts. One of the streets in the new city was badly cut up and many of the buildings suffered, some being almost demolished. A number of civilians, including three women, were killed by shells during the attack, and the total casualties on land and sea exceeded one hundred. The shore batteries kept up an intermittent fire during the day, but they might as well have reserved their ammunition, for all the harm they did to the Japanese ships. While this attack was being made upon Port Arthur, a cruiser squadron was ordered to Talien Bay to bombard and destroy the enemy's works on San-shan-tao, at the entrance of the Bay. This was accomplished without loss.

Two days later (12th March) Vice-Admiral Makaroff put to sea with a fleet composed of the battle-ships "Petropavlovsk," "Sevastopol," "Pobieda," and "Peresviet" and several cruisers and destroyers. With the exception of one of the cruisers, which remained outside on scouting duty, the ships returned to the harbour in the evening, without having been in touch with the Japanese fleet. An uneventful week followed. Togo was preparing for his next spring and Makaroff was hard at work on shore, assisting in the improvement and strengthening of the land defences, and inspiring both officers and men with renewed confidence and hope.

Not until the 22nd day of March was another severe blow struck at the stronghold. During the night of the 21st, two flotillas of destroyers were sent into the outer roadstead, and at 8 o'clock the following morning the combined fleet appeared off the port. The "Retvisan" opened fire at 9.20 a.m., and her big guns continued in action until 11 o'clock, but the range was too great for effective work. The main body of the Japanese fleet steamed round to Pigeon Bay, 17 miles by sea west of the harbour. This sheet of water, which is not deep enough to allow battle-ships to approach within one and a

half miles of the shore, is six miles as the crow flies from the bridge between the new and old towns. A number of low hills, none of them over 300 feet in height, screen the new or western town from the observation of a ship anchored in the Bay. Fortunately for the Japanese the coast defences on the western side of the stronghold were in a very incomplete state when the war broke out, not one of the six new batteries planned for that section being sufficiently far advanced in the month of February to receive the armament. To remedy this as far as possible mines were laid down in the Bay. In face of this danger, the battle-ships "Fuji" and "Yashima" were ordered round to the bay to bombard the inner harbour. Whether the indirect fire maintained by these ships until 2 o'clock in the afternoon had the effect of driving their enemy's fleet outside is not accurately known, but the fact remains that while the bombardment was in progress five Russian battle-ships, four cruisers, and ten destroyers steamed out into the roadstead, and there manœuvred under cover of the forts. Admiral Makaroff's purpose, it is believed, was to lure his foe within range of the shore batteries. If this was his object it completely failed, as the Japanese fleet slowly drew off and the ships were hull down before 4 o'clock. The Russian ships opened fire, but did no damage, though several shots fell dangerously near the "Fuji." On the Russian side the casualties were 25 killed and wounded.

A second attempt to close up the mouth of the harbour was made before dawn on 27th March. Only four merchant steamers were secured this time: the "Fukui Maru" (2,943 tons), "Yoneyama Maru" (2,693 tons), "Yahiko Maru" (2,692 tons), and "Chiyo Maru" (2,770 tons). At the special request of the officers and engineers who took part in the earlier blocking operations they were again selected for the perilous enterprise, but other petty officers and men were chosen. These steamers were laden with stones at Osaka prior to sailing for the naval rendezvous at the Elliot Islands, where the volunteer crews were placed on board. Each steamer carried a machine gun forward to repel the enemy's torpedo craft. Escorted by flotillas of torpedo-boats and destroyers, and convoyed by several ships of war, the blocking vessels arrived off the roadstead during the night of 26th March. Six torpedo-boats were sent in with the ships to rescue as many as possible of the crews. Leaving the fleet at 3 a.m. on the 27th, the four steamers dashed ahead at full speed towards the narrow opening between Golden Hill and the light-house, the "Chiyo Maru" leading. The enemy was on the *qui vive*. Powerful searchlights threw their dazzling rays down and across every line of approach, and destroyers patrolled the anchorage. Two miles from the mouth a hot fire was encountered from the coast batteries and patrol boats. Undismayed by shot and shell the doomed steamers kept on their way and succeeded in reaching the entrance. As the "Chiyo Maru" neared the goal the enemy's fire slackened, that from the destroyers ceasing entirely for a few minutes, probably because of the difficulty of discriminating between friend and foe. The leading boat dropped anchor on the eastern side of the entrance under Golden Hill, half a chain off shore, and was there blown up. A minute later the "Fukui Maru," in charge of the gallant Commander Takeo Hirose, ran in, only to be torpedoed by one of the destroyers just as her anchor was about to be dropped. Warrant Officer Sugino, who won signal distinction during the torpedo attacks

on the Chinese fleet at Liu-kung-tao (Wei-hai-wei) in 1895 (5th to 9th February), went below to fire the mine. The mine was duly exploded and the vessel sunk on the spot, but Sugino was never seen again. The "Yahiko Maru" was sunk close by the "Fukui," but nearer the lighthouse, while the "Yoneyama," after a splendid attempt to cut down one of the enemy's destroyers, made the centre of the channel inside her sunken consorts. She was there sent to the bottom by one of the enemy's torpedoes. Only 13 were killed on board the steamers as they ran the gauntlet of the shore batteries and during the subsequent operations; the wounded numbered eight. The survivors of this heroic attempt to bottle the Russian ships up in the narrow harbour got away in the ship's boats, and were eventually picked up by the torpedo-boats "Tsubame," "Kasagi," "Kari," and "Kasumi." Commander Hirose met his death through his devotion to his warrant officer, who, indeed, could not have taken part in the expedition had not an exception been made in his favour in consequence of the deep-seated attachment between the two. Realising as he was about to enter the boat that Sugino was not there, the intrepid commander went to look for him. His search proved fruitless, however, and he reluctantly joined the waiting occupants of the boat. He had hardly entered it when a shell struck him and carried him overboard, leaving but a small portion of his body in the boat to tell the ghastly tale. Strangely enough the two men had often expressed a wish that they might fall in battle side by side.

During the operations a sharp action took place about a mile from shore between the Russian destroyer "Sielni" and the torpedo-boats "Aotaka" and "Tsubame." Caught between the two the destroyer was terribly punished, her boiler being damaged, and an engineer and six men being killed. Almost everyone on board was wounded. When the Japanese boats drew off, the "Sielni" was in an apparently helpless plight, and when the boat from the "Yoneyama Maru" passed her almost an hour later she seemed to be deserted. This attempt to block the mouth of the harbour was only partially successful, although three of the vessels were sunk in the fairway. With the single exception of the "Yoneyama," which appears to have been thrown across the channel in a diagonal position by the impact of the torpedo, which sent her to the bottom just as her brave crew were preparing to sink her, the sunken ships were left almost broadside on to the shore. As the channel at the entrance is not less than 600 feet across, four steamers lying end on could not possibly block it sufficiently to seriously interfere with navigation. As a matter of fact, an easy, if not quite direct, passage still remained. At the same time, a disinterested observer would not have endorsed the Russian Commander-in-Chief's report to St. Petersburg, that "the passage of the harbour is still entirely unimpeded." The operations elicited the following message from the Emperor Mutsuhito: "We have received the news that the combined fleet has again attempted to block Port Arthur. We appreciate the valour and bravery of the officers and men who took part in the heroic deed." In transmitting this Imperial message to Vice-Admiral Togo, Baron Yamamoto, Minister of Marine, took occasion to convey his own sense of admiration of the bravery of the officers and men who participated in this attempt to seal Port Arthur, and expressed his profound grief for those who were killed and his solicitude for the wounded.

Another spell of quiescence now set in, a fortnight going by without anything of marked importance being recorded. Both sides were busy at intervals, when the weather favoured, mining and countermining—preparing, as the sequel proved, to demonstrate that as a destructive agent pure and simple the submerged, mechanical mine is incomparably more deadly than either the torpedo or the colossal breech-loading gun.

On 11th April, Admiral Togo's fleet moved out from its base for another attack upon the naval stronghold. Besides the second, fourth and fifth flotillas of destroyers, a flotilla of torpedo-boats—the fourteenth—he had with him a small merchant steamer called the "Koryu Maru," which had been fitted up for service as a mine-laying-vessel. Accompanied by two of these flotillas, the "Koryu Maru" steamed in the direction of the harbour entrance at midnight on 12th April, and, evading the enemy's searchlights, succeeded in laying a number of mechanical mines. Her work accomplished, the "Koryu Maru" returned and rejoined the fleet in the offing without mishap. While this work was being effected, another division of destroyers was sent to cruise in the vicinity of Sien-Shang promontory. At daybreak one of the enemy's destroyers—the "Bestrachni," 350 tons—was sighted. A sharp, one-sided engagement followed. After a ten minutes' fight the Russian boat was sunk, only five of her crew escaping. Two men were wounded on board the "Inazuma," one of the destroyers belonging to the victorious flotilla. Hardly had the "Bestrachni" been disposed of before another Russian destroyer was sighted some miles off to the south-west, making for Port Arthur. An attempt was made to cut off her retreat, but it proved ineffectual, as the cruiser "Bayan" came out of the harbour and gave chase. Seeing the hopelessness of overhauling any of the destroyers, the dauntless "Bayan" turned her attention to the detachment of cruisers lying a few miles off to support the destroyer flotillas. This was about 9 a.m. (13th April). The "Bayan" opened fire, but had to fall back upon the harbour very shortly afterwards. I have said "had to fall back," but this expression may be slightly misleading, as she came out again very soon, followed by the cruisers "Novik," "Askold," and "Diana," and the battle-ships "Pobieda," "Poltava," and "Petropavlovsk" (flying the flag of Admiral Makaroff). Confronted by this array of force, the Japanese cruiser squadron drew off to the south-east for about 15 miles.

Clearly, both sides were endeavouring to manœuvre for a marked advantage, as, quite unknown to the Russian Admiral, Togo's battle-ships were lying off the Miaotao group, some 30 miles to the south-west, ready to run in and intercept the Russians if they allowed themselves to be lured far enough away from their base. The weather was foggy, so the conditions were not unfavourable to the Japanese strategists. A wireless message from the retreating cruisers soon apprised Admiral Togo of the situation, and in a very few minutes his crack fighting ships were headed at full speed for the enemy's roadstead. This movement was detected by Makaroff just in time to avoid an engagement against overwhelming odds. Altering his course, the Russian Commander-in-Chief steamed back to the harbour, and succeeded in averting the threatened *coup*. Then occurred one of the most tragic incidents of the war. The "Petropavlovsk" was leading. Just when she seemed to be once more in safe waters—the entrance to the harbour was easily visible to the

men on deck—when all danger of being caught between the upper and nether millstones of her vigilant foe's contrivance seemed over, the mighty vessel was shaken from stem to stern by the explosion of a submarine mine—one of the little "Koryu Maru's" mines dropped near the fairway a few short hours before in the darkness of the night. Eye-witnesses have stated that the battle-ship appeared to rise bodily out of the water, so great was the power suddenly released beneath her. Before those on board could realise the gravity of the disaster which had overtaken them, a second and a third explosion rent the doomed ship, as the magazines and boilers blowing up lent their resistless force to the work of devastation; and (to use the words of one of her few survivors) "almost instantly the great ship put her head down and plunged straight to the bottom of the sea," carrying with her upwards of 600 men, and the one man who had given promise by constant alertness, fearlessness, and daring, of doing something great to restore his country's shattered prestige as a naval Power. Another famous man, a man whose reputation had already been made, a man of peace, not war—the artist Verestchagin, the personal friend and guest of the unfortunate Admiral—went down with her. The Grand Duke Cyril, who was serving on board as a junior officer, was saved, although he was standing close to Admiral Makaroff on the bridge at the moment destruction, swift and absolute, overtook the ship. He with 52 others, had a marvellous escape. Amongst the lost were Rear-Admiral Molas (Chief of Staff), Captain Vasilieff (who was in command of the battle-ship), and 13 staff officers. In all, 616 men were engulfed with the ill-fated vessel.

It was 10.32 in the forenoon when the "Petropavlovsk" disappeared beneath the still waters. This crushing blow threw the other ships of the returning fleet into more or less disorder, but they continued to fire in the direction of their pursuers, until almost an hour later, when they disappeared behind Tiger's Tail. Another ship—the "Pobieda"—had a very narrow escape before she reached shelter, a Japanese torpedo-boat having dashed in and fired a torpedo at her, striking her in the forward part of her armoured section, on the starboard side. She managed to make the harbour, however, though not without great difficulty. The Japanese fleet turned and steamed out to sea at 1 p.m.

To their lasting credit be it said, the Japanese actually mourned Admiral Makaroff's death. When the captain of one of the war-ships mustered his men after the disaster and informed them of the Russian Commander-in-Chief's tragic death, the officers and crew unanimously resolved to forego drink and every form of amusement for the day "in honour of the great dead." The principal newspapers of the country published eulogistic notices of their gallant foeman, and several memorial services were held. Nor was the feeling of sympathy confined to the Press and the militant forces by any means, for private individuals to whom I spoke exhibited a genuine sense of regret, and referred in touching terms to the loss of a brave and gallant opponent. Admiral Makaroff will be remembered as one of the ablest and worthiest of naval officers of the front rank in the Tsar's service.

On receipt of the terrible news of the disaster at St. Petersburg, Vice-Admiral Skrydloff was appointed to the vacant command, but before he could arrive out, communication by rail with Port Arthur had been cut off, and the control of the fleet therefore devolved upon Vice-Admiral Vitgeft, who was also doomed to perish in action after

a brief term of command. Rear-Admiral Prince Ukhtomsky remained second-in-command.

The Japanese fleet reappeared off Port Arthur two days later. Preceded by flotillas of destroyers and torpedo-boats, which arrived outside the roadstead at three o'clock in the morning of the 15th April, a detachment of cruisers (viz., the "Asama," "Tokiwa," "Kasagi," "Yoshino," "Chitose," "Kasuga," "Nisshin," and "Takasago") steamed in and reconnoitred the enemy's position at 7 a.m. No war-ships were to be seen outside the harbour. The heavier ships—the "Mikasa," "Hatsuse," "Shikishima," "Yashima," "Asahi," and "Fuji"—arrived off the port two hours later. Some of the enemy's mechanical mines had been discovered on the way round from the rendezvous and destroyed. At ten o'clock the two new cruisers purchased from the Argentine Government just before the outbreak of hostilities—the "Nisshin" and "Kasuga"—were sent round to Pigeon Bay to bombard the western harbour for about two hours and undergo their baptism of fire. A newly-constructed fort somewhat to the north of Lao-ti-shan was silenced before the ships withdrew. The war-ships and some of the forts on the west replied, but no particular damage was inflicted on either side. On shore there were a few casualties amongst the Russian soldiers and Chinese. Admiral Togo withdrew his fleet at 1.30 p.m. In concluding his report to Imperial Headquarters on the two days' operations, the Japanese Commander-in-Chief said: — "The fact that during this prolonged engagement the combined fleet was able to achieve some success without losing a single man is due to the illustrious virtue of His Majesty the Generalissimo. The officers and men fought bravely throughout the engagement, and discharged their duties faithfully; yet there still remains much in our success which cannot be attributed to human agency. We cannot help firmly believing that it is simply owing to Providential help that the numerous war-ships cruised round both day and night on the sea, on the surface of which many mechanical mines prepared by the enemy were floating, without sustaining any damage."

Nothing of great moment was done now until early in the month of May when, between three and four o'clock on the morning of the 3rd, Admiral Togo made his third and last attempt to seal up the Russian fleet. Eight merchant-steamers were reserved for destruction this time—the "Totomi Maru," "Yedo Maru," "Sagami Maru," "Sakura Maru," "Mikawa Maru," "Aikoku Maru," "Otaru Maru," and "Asagao Maru." Thousands of men volunteered for the enterprise, including the merchant seamen who brought the steamers across from Japan. Needless to say, the perilous work was again entrusted to men of the Navy exclusively. The blocking vessels and their convoy, consisting of the gun-boats "Akagi" and "Chokai," the second, third, fourth, and fifth destroyer flotillas, the ninth, tenth, and fourteenth torpedo-boat flotillas, and four steamers (the "Nagato Maru," "Shibata Maru," "Fusan Maru," and "Kokura Maru"), each fitted with powerful electric search-lights, left the naval base on the evening of the 2nd. As the expedition steamed out past the battle-ships, the enthusiasm of the crews found vent in deafening cries of "Banzai!" Admiral Togo ran up a signal wishing "Success!" To this the blocking steamers replied: "If not successful, we will never return." The weather then was calm, and everything promised well for the accomplishment of the work. A few hours later, viz.,

at 11 p.m., a strong south-easterly wind arose, causing a nasty, confused sea. Some of the vessels got out of their course, and, seeing his force being separated, the Commander-in-Chief of the expedition (Commander Mineo Hayashi) signalled to the ships to suspend the attack. Fortunately several of the ships were too distant to distinguish the signals. Efforts to establish communication with them were continued until two o'clock the following morning. The signal was made out by the "Nagato Maru," "Shibata Maru," "Fusan Maru," and "Kokura Maru," which were astern, and these vessels consequently drew off after one of the quartette had swept the sea coast with her search-light from Lao-ti-shan on the extreme west to Golden Hill, immediately to the east of the harbour mouth. Meantime the torpedo-boat flotilla and the blocking steamers continued on their course towards the mouth of the harbour, quite unconscious of any change of plans and the consequent withdrawal of the four search-light vessels. Thanks to the darkness of the night and the boisterous weather, the steamers got well in before their presence was detected by the guards at the electric search-light stations on shore, notwithstanding that the torpedo-boats had run in an hour earlier and had drawn the fire of the batteries and guard-ship. When they were within three miles of the harbour entrance, the shore batteries opened a vigorous fire upon the steamers, the gun-boats "Gremiastchy," "Gilyak," and "Otvajny" assisting. The "Mikawa Maru" (commanded by Lieutenant Sosa) was the first vessel to reach the entrance, inside of which the Russians had stretched booms to frustrate just such an attempt as the "Mikawa Maru" and her consorts were making. Submarine mines had been laid down near the entrance also. Crashing at full speed into the boom, the "Mikawa Maru" got into the narrow channel and dropped anchor in the fairway, where she was blown up and sunk. The next to arrive was the "Sakura Maru" (Lieut.-Commander Shiraishi), which was brought up and sunk just outside the lighthouse, close by the wreck of one of the steamers which took part in the first blocking expedition. Not a single man returned from the "Sakura Maru." Those of her crew that were still unwounded either made for or were swept on shore by the current, and there advanced with magnificent recklessness against one of the enemy's batteries, only to be cut down to a man. The "Totomi Maru" (Lieut.-Commander Honda) was more fortunate, as she made the entrance and ran into the boom. The impact threw her head round, and she went down on the eastern side of the channel, a short distance inside of and parallel to the boom. Already two of the steamers had accomplished much more than the nine vessels lost in the earlier expeditions, more than half of the channel being blocked by the time the "Yedo Maru" (Lieut.-Commander Takayanagi) appeared off the mouth of the harbour. Her commander was struck by a shell and killed instantly just before the anchor was dropped. Sub-Lieutenant Nagata then took command, and had the mine exploded and the ship sunk. Of the remaining boats, the "Otaru Maru" and "Sagami Maru" succeeded in reaching the entrance, and were there sunk, but the "Aikoku Maru" ran upon a submerged mine two-thirds of a mile from the lighthouse and sank immediately. The chief engineer, a lieutenant, and eight of the crew were lost. The "Asagao Maru" was not much more fortunate, as she was compelled to bring up under Golden Hill owing to a breakdown of her steering gear, and was there sunk. Her crew took to the boat and were driven on shore,

where some were captured after a desperate but vain fight. A similar fate befell the crews of the "Otaru Maru" and "Sagami Maru." One of the torpedo-boats was struck by a shell and damaged in the boiler-room. She was eventually towed out of range by another torpedo-boat. The destroyers "Aotaka" and "Hayabusa" lost a man each, and the total casualties were:—Killed, 7; wounded, 23; missing, 89. The crews of the eight vessels numbered 158. Of the missing, 30 fell into the hands of the Russians, despite the vigilance and daring of the torpedo-boats, which ran in close to the batteries at the mouth of the harbour in attempting to pick up survivors of the heroic band. That in face of heavy weather, and in spite of the additional precautions taken by the garrison to prevent any hostile boat from getting past the lighthouse, no less than five of the ships should have got in close to the boom (two of them actually getting beyond the boom), and thereby blocked the channel, is an achievement of which any Navy might justly be proud. The commanding officers had promised to succeed or die in the attempt, and they nobly kept their word, though many unfortunately laid down their lives in the work. Twenty-six were buried by the Russians with military honours on the 4th May, and twenty-two sailors and one officer (nine of the number badly wounded) were placed on board the hospital-ship "Mongolia."

Despite the statement made by a Russian official in Shanghai on the 3rd May, that the harbour was "quite free as before," there is every reason to believe that the port (as, indeed, advices received in St. Petersburg on the 7th May made clear) was "completely bottled up as regards large vessels." Small vessels could still pass through the channel with difficulty. A few days after this attack—on the 6th and following days—numerous explosions were heard in the neighbourhood of the port, and although it was at first thought that the Russians, despairing of their ability to defend the place successfully, had been blowing up their war-ship, more definite information made it clear that the explosions were caused by attempts to clear the fairway of the harbour from the ships sunk by the Japanese.

The war had now been in progress four months. After eight different attacks from the sea and three independent blocking expeditions, Admiral Togo considered himself in a position to absolutely ensure the safety of the fleet of transports required for the disembarkation of an investing Army on the peninsula.

After the successful blocking operations on the 3rd May, the principal duty which devolved upon the battle-ships and first-class cruisers for several days was to keep watch and guard over the harbour-mouth, lest some of the enemy's destroyers and smaller vessels should escape and harass the transports gathered about Pitsewo, Terminal Cape, and other bases. Early on the 15th May, when the cruisers composing the third fighting detachment, viz., the "Chitose" (flying the flag of Rear-Admiral Dewa), "Kasuga," "Yoshino," and two other vessels, were off Shantung promontory on their way back from Port Arthur, a dense fog was encountered. Before the ships ran clear of the fog, the "Kasuga" rammed the "Yoshino," cutting into her so badly on the port side near the stern that she very quickly foundered, carrying with her, unfortunately, the commander (Captain Sayegi), her lieut.-commander, several lieutenants, four engineer-lieutenants, the surgeon, and paymaster, and about 90 of the crew. When the disaster occurred, the ill-fated cruiser had just altered

her course. That was at 1.40 a.m. A minute or two later a terrific crash was heard, many supposing that the ship had been torpedoed. Captain Sayegi ordered collision mats to be got out, and an effort was made to stop the inrush of water with tarpaulins. These attempts to save the ship proving useless, the order was given to man the boats. By this time the vessel was more or less under water. As the ship sank, the captain, who remained on the bridge to the last, shouted "Banzai!" three times, the crew responding. He remained perfectly cool throughout, and it was largely owing to his forethought that the portrait of the Emperor was saved and conveyed to the "Kasuga." The "Yoshino" was built at Elswick in 1892, and saw much service in the war against China two years later. With a speed of 23 knots and an armament of 6-inch and 4·7-inch guns, not to mention 3-pounders and torpedo-tubes, the "Yoshino" was admittedly one of the smartest vessels in the Navy, and her loss was deplored.

But this was only the beginning of the disasters that will cause the 15th of May of the thirty-eighth year of Meiji to be recalled with sorrow for years to come. A few hours later, when the battle-ships "Shikishima," "Hatsuse," and "Yashima," with the cruisers "Kasagi" and "Tatsuta," were steaming up towards Port Arthur, the "Hatsuse" struck one of the enemy's mines, damaging her steering gear. The mine must have struck the ship on the port side near the stern, as she had a list to port afterwards. This was at 10.50 a.m., and it is worthy of note that the place where the mine exploded (according to the Japanese Commander-in-Chief) is ten nautical miles south-east of Lao-ti-shan. Signals were made for assistance, and prompt measures taken to keep her from sinking. In this work Commander Arimori Genkichi rendered distinguished service. The damaged ship was taken in tow, but owing to the heavy sea running the tow-rope parted. A little later — at 0.30 p.m. — while the commander and officers of the "Hatsuse" were inspecting the damage, a second explosion shook the ship, killing Commander Arimori Genkichi instantly. This second explosion was also on the port side. The concussion was terrific. A deafening report as of near-by thunder rent the air; dense masses of smoke mingled with livid flashes rose, and then—all that remained above water of the magnificent ship were bits of wreckage and a few struggling men. The "Hatsuse" disappeared within 70 seconds of the second explosion. The despatch-boat "Tatsuta" was fortunately near by, and she rendered splendid service in rescuing the officers and crew of the ill-fated battle-ship—one of the finest productions of the Elswick Shipbuilding Yard—a ship of 15,000 tons displacement, carrying four 12-inch guns, fourteen 6-inch guns, and thirty-two of small calibre.

Rear-Admiral Nashiba and Captain Nakao were saved, but among the lost were Lieut.-Commander Tsukamoto, a very promising staff officer, Lieut.-Commander Viscount Nire, six lieutenants, five engineer-lieutenants, and two surgeon sub-lieutenants, besides upwards of 400 of the crew. One of the commissioned officers lost was Sub-Lieutenant Tanaka, who ran in to save the portraits of their Majesties the Emperor and Empress immediately the first mine exploded.

When the "Hatsuse" was in her death throes, 16 Russian destroyers steamed out to attack the other ships of the blockading squadron. Their manœuvres added to the difficulties of the situation, of course, but before they could advance close enough to do much

mischief, the "Akitsushima," "Suma," "Akashi," "Chiyoda" and three gun-boats arrived on the scene and drove the flotilla back to the anchorage. Unhappily, this did not exhaust the list of disasters, for, in drawing away from the mine-strewn area, the battle-ship "Yashima" also struck one of the enemy's contact mines. Luckily, Captain Sakamoto, who was in command of the battle-ship, was able, by dint of almost superhuman efforts on his crew's part, to keep her afloat for some time after the explosion. An effort was made to run the damaged battle-ship into one of the inlets near Talien-wan and there beach her; but before this could be accomplished she sank in deep water, leaving (as I am advised on what I have reason to believe unimpeachable authority) only a few feet of her topmasts visible above water. To the lasting credit of her officers and crew, not a soul was lost, everyone on board having been safely removed to other ships of the squadron before she went down. This loss was not reported at the time (for reasons which will bear scrutiny), but it is a fact nevertheless. Moreover, it accords with the Russian official report, which stated that when the "Hatsuse" was lost, another Japanese battle-ship (the "Fuji" was mentioned) also struck a mine, but was not sunk. The "Yashima" was not sunk within sight of anyone at Port Arthur, either on shore or afloat. As the "Yashima" and "Fuji" were sister-ships, both having a displacement of 12,300 tons, with a speed of 19 knots, the mistake made by the Russians is quite explicable.

The loss of these two fine battle-ships and one armoured cruiser in one day was a staggering blow to the Japanese Navy, and had the full extent of the disaster been revealed officially it is quite within the bounds of possibility that some of the subsequent actions would have taken a different course. In actual war, when affairs of supreme magnitude are being directed, there are times undoubtedly when a Commander-in-Chief, conscious of his ability to save the situation, even with sadly depleted power, is justified in keeping even his own countrymen in ignorance of the real extent of a disaster. Supposing this loss of the "Yashima" had been publicly acknowledged, is it not certain that the knowledge of Togo's enormously reduced strength in battle-ships would have re-inspired, not only Vice-Admiral Vitgeft at Port Arthur, who at the time was busily repairing and refitting his battered ships, with a view to another attempt to take the sea, but also the disheartened and discouraged authorities on the Neva?

The question of responsibility for the loss of the "Hatsuse" by a mechanical contact mine found floating a distance of ten miles from shore, caused no small stir in Japan and elsewhere. Some of the Tokio journals, notably the *Kokumin* and the *Nippon*, went so far as to express the view that the brilliant successes of the fleet had perhaps engendered some measure of over-confidence, tending to produce a certain laxity in taking necessary precautions. Both press and public, however, showed a notable disinclination to indulge in any harsh criticism of the naval authorities. Whether the blow would have been borne with such equanimity and confidence had the full extent of the disaster been made known is perhaps open to doubt.

Five days after the disaster to the battle-ship squadron, at 1 a.m. on 20th May, Vice-Admiral Togo sent in a gun-boat detachment with several flotillas of destroyers and torpedo-boats to make a reconnaissance in force. The purpose was achieved, but not without some loss, as one of the gun-boats was struck by a shell and a

destroyer, the "Akatsuki," one of the swiftest and largest of the fleet, was placed *hors de combat* by a shell which killed the Commander—Lieutenant Suyetsugu—and 24 seamen. Nothing further was attempted by the Navy beyond the ordinary duties of the blockade, which were sufficiently arduous in themselves in face of much stormy and foggy weather, until 30th May. On this date, another reconnaissance was made by four gun-boats and four flotillas of destroyers and torpedo-boats. The movement being detected from the shore, several of the coastwise batteries opened a hot fire. A shell struck one of the gun-boats, killing a warrant officer, wounding three bluejackets, and damaging a gun. It was ascertained, however, that a new searchlight had been erected on Lao-ti-shan, as well as additional batteries.

The Russians about this time erected a wireless telegraph station on the highest peak of Lao-ti-shan, presumably with the object of communicating with the Russian Consulate at Chefoo.

On the evening of 4th June, a Russian gun-boat, believed to be the "Gremiastchy," ran on a mine about one mile south of Chuengtoushan while giving chase to a Japanese torpedo-boat flotilla, and sank.

Not long after midnight on the 5th June, four Japanese gunboats ran in close to the outer anchorage to reconnoitre, and met with a very hot reception. The batteries opened fire with such effect that one gun-boat was struck by no fewer than eight shells. She escaped in a badly damaged state, with one man killed and two wounded.

For some time after this the attention of the Navy was taken up with blockading duties, several of the smaller ships at the same time being detailed for the purpose of covering the military camps on shore near the coast. Meanwhile, detachments of destroyers and gun-boats were kept busy clearing Talien Bay and other inlets of mines. Up to the 10th June, no fewer than 75 had been discovered and destroyed in Talien Wan, and several were found and exploded inside the Gulf of Pechili, where, of course, these deadly and treacherous engines of modern warfare were as great a menace to neutral shipping as to belligerent vessels.

The Japanese mine-laying ship "Taihoku Maru," a merchant steamer fitted up to serve the purpose for which the Russian ships "Yenissei" and "Amur" were designed, reported an ugly disaster on 7th June. While engaged laying down mines in the immediate vicinity of Port Arthur, one accidentally exploded, killing Lieutenant-Commander Masaki, twelve warrant officers and six bluejackets on the spot, and seriously wounding a number of others. Strange to relate, the ship herself sustained very little damage. A week later, 14th June, a flotilla of torpedo-boats from the various vessels made a reconnaissance in company with the Third Destroyer Flotilla and three torpedo-boat flotillas. The night was favourable, and before returning to the rendezvous several mechanical mines were safely laid down outside the port.

One of the destroyer flotillas had a narrow escape on 16th June. In the afternoon, when some ten miles off Lao-ti-shan, they came upon three of the enemy's mechanical mines. All were destroyed without mishap. A number of extemporised mines were also discovered near by, and these were fired upon and exploded.

It is difficult to say if the various reconnaissances succeeded entirely in the main object which the Commander-in-Chief had in

view. The object was to ascertain whether the channel between Golden Hill and Tiger's Tail was any longer available for large ships, while at the same time learning something as to the condition of the enemy's war-vessels within the harbour. That the blocking operations of the 3rd May had resulted in temporarily closing the channel was clear, but no one was able to say how far the garrison had been successful in blowing up the obstructions.

For some weeks only the enemy's destroyers and two or three of the smaller gunboats emerged from the harbour, but towards the middle of June the uncertainty as to the actual state of the entrance grew deeper. This necessitated the maintenance of a considerable force outside the roadstead at all times, lest the Russians should for once catch their foe napping; and notwithstanding the confidence shown and expressed by some officials in Japan, that "the issue of their (the Russian) fleet" was "out of the question," the harbour being completely blocked, these precautions proved as wise as necessary.

On the 23rd June, the enemy's fleet ventured out once more, and prominent amongst the battle-ships were the "Tsarevitch" and "Retvisan," which were so badly crippled on the eventful night in February which saw the beginning of the war.

Credit must be given the Russians for their ability to repair and refit these battle-ships, notwithstanding the fact that the only dock in the eastern basin was too small to accommodate either of them. The battle-ship "Pobieda" and the cruiser "Pallada" were also repaired.

When one of the scouts outside the port reported the reappearance of the Russian fleet, Admiral Togo resolved to divide his forces, and leaving an obviously weaker division to confront the enemy, if possible lure them into the open and there give battle. This plan, as will be seen, partially succeeded. The battle-ships "Sevastopol," "Peresviet," and "Poltava" were the first to leave the harbour, and these were soon followed by the armoured cruisers "Bayan" and "Pallada," and the cruisers "Diana," "Askold," and "Novik." Other smaller vessels, merchant-vessels apparently, were sent ahead to clear the sea of Japanese mines. Two of the Japanese destroyer flotillas did what they could to frustrate this work.

At 11 o'clock in the forenoon this squadron was joined by the battle-ships "Tsarevitch," "Retvisan" and "Pobieda." Nothing was done, however, until 3 o'clock, when an action took place between a number of torpedo craft, about seven being engaged on each side. One Russian destroyer had to seek shelter, before the cruiser "Novik" ran out and compelled the Japanese boats to draw off. Meantime a broad channel out to the offing having been cleared of mines, the fleet was headed south-east, in the direction of Shantung promontory. The decoy squadron left by Admiral Togo steamed a more southerly course. Admiral Togo himself, with four battle-ships, six armoured cruisers, and a number of destroyers and torpedo-boats, was lying under the lee of Encounter Rocks, rather more than 25 miles from Port Arthur. The leading Russian ship was eight miles north-west of Encounter Rock when first sighted. There were ten ships in single line ahead, the battle-ships leading, with the cruisers in the rear. The "Novik" and seven destroyers were some distance away on the starboard side. This was at 6.15, and all were steering a southerly course.

Admiral Togo then gave chase, and both fleets hoisted their battle flags. An hour later, the hostile fleets were still eight miles apart. Admiral Vitgeft then altered his course more to the westward, and at eight o'clock headed his ships due north, evidently with the intention of returning to Port Arthur. Admiral Togo followed suit, and both fleets steamed northward in parallel lines. At sunset (8.22 p.m.), the Japanese ships veered off to the north-west to allow the destroyer and torpedo-boat flotillas to attack the enemy. These little wasps dashed forwards at full speed, and by 9.30 came up with the sternmost vessels of the enemy's fleet, which was then five miles from the entrance to Port Arthur. Though none of the torpedoes took effect, probably owing to the distance, the attack threw the enemy's fleet into confusion. The Russian ships made the outer anchorage safely, however, and were moored stern in shore under cover of the Mantoushan and Chengtoushan forts. Throughout the night—a bright moonlight night—the torpedo-boats and destroyers attacked repeatedly, the flotillas running in under a terrible fusillade from the forts no fewer than eight times.

Owing to the method adopted in anchoring, the Russian ships presented a very small target for torpedo work. The destroyer "Shirakumo" managed to get two torpedoes home against the bow of a ship of the "Peresviet" type, and it was officially reported that the ship was seen to sink amid volumes of smoke and flame. I question very much if the ship sank, as both the "Peresviet" and "Pobieda" (the only ships of the class) took part in the naval battle of the 10th August, and the shot-pierced and badly battered hulls of both were lying on the mud in Port Arthur, close up under Pehyushan, when General Baron Nogi made his entry on 13th January, 1905.

Three other Russian ships were damaged, and had to be towed into harbour. In these attacks the "Shirakumo" received a shell in her ward-room, which damaged her steering gear and killed three men. One of the torpedo-boats was also struck, but the shell failed to explode. Two other boats were slightly damaged. In his report of this meeting of the two fleets, Admiral Togo said that "three vessels, one of the battle-ship 'Sevastopol' type, and the other two of the cruiser 'Diana' type, were injured to such an extent as to be unable to proceed under their own steam." Although neither the "Peresviet" nor "Pobieda" was sunk, there is reason to believe that the moral and material effect was considerable, as more than six weeks elapsed before Admiral Vitgeft dared attempt to put to sea again in force.

On the night of the 27th June, the Twelfth Torpedo-boat Flotilla, under Commander Yamada, steamed into the outer anchorage under cover of darkness, and torpedoed a three-funnelled cruiser at anchor under Golden Hill. The attack was made in face of a heavy fire from the forts and coast batteries, and, before the flotilla could draw off, a number of destroyers came out of the harbour to intercept the returning boats. A sharp engagement took place, in which one of the Russian destroyers was so badly injured beneath the water-line that she turned over and sank, going down in a cloud of smoke. The Japanese had 14 killed in this action, including Lieutenant Gondo.

For some weeks now the naval operations were practically confined to night attack by torpedo craft. There were torpedo engagements on 8th, 11th, and 24th July. The earlier actions were without

any very decisive result on either side. That fought on the last-mentioned date was disastrous to the Russians, as two of the destroyers then engaged returned to Port Arthur in a badly damaged condition, while one was sunk, and the fourth, as far as could be ascertained, was beached and abandoned in Pigeon Bay. It is known that the destroyer "Lieutenant Burakoff" was abandoned there towards the end of July. On the 9th July, one of the enemy's battle-ships (the "Poltava") and four cruisers—the "Bayan," "Diana," "Pallada," and "Novik"—steamed out of the harbour to cover some mine-clearing operations. A detachment of Japanese destroyers thereupon made an attack to frustrate the work, and at 4 o'clock in the afternoon the Russian ships retired inside the harbour, there to remain until 10th August.

On 26th July a spirited action was fought near the coast about nine miles east of Port Arthur. A detachment of gun-boats was engaged clearing away submarine mines near Lung-wang-tao on the morning of 26th July, when one of the little vessels fouled her propeller with one of the drag ropes. While in this helpless plight she drifted in the direction of the Russian forts. Not only the forts but two gun-boats lying close in under the protection of the guns on shore opened fire, and would have undoubtedly sunk her had not Commander Hirose taken his vessel in to her assistance and successfully towed her out. Executed under a hot fire, this manœuvre deserved and received high commendation. During the action, which lasted fully an hour, the gun-boats were repeatedly hit. Several Russian destroyers approached and attempted to torpedo the gun-boats, but the deadly missiles went wide, and both vessels ultimately ran clear and reached a safe offing near Hsiaoping-tao, having lost only three men killed. Commander Hirose, a sub-lieutenant, and nine men were wounded.

A few days later, on the afternoon of 5th August, three Japanese destroyers — the "Akebono," "Oboro," and "Inadzuma" — encountered a vastly superior force of the enemy's destroyers. The "Akebono" and "Oboro" had run in near the outer anchorage for reconnoitring purposes, when three flotillas of destroyers, 14 vessels in all, suddenly made a rush from the harbour, apparently with the intention of surrounding the two boats. On getting clear of the roadstead the Russians were headed in three different directions, four proceeding south-west, seven due south, and three due east. Seeing this, the "Oboro" and "Akebono" steamed north-east, with the object of cutting off the trio steaming east in the direction of Hsien-sheng promontory. The Japanese boats, in no way daunted by the superiority in numbers, opened fire at a range of three miles. Shortly afterwards, the three Russians turned and made for the harbour, closely followed by their consorts to the south and south-west. The "Inadzuma" now came up, and the three Japanese boats gave chase. By 6 o'clock the Russian flotillas had disappeared behind Tiger's Tail promontory.

Although, strictly speaking, it was not an incident of the siege, it is difficult to avoid dealing with the naval battle of 10th August, the fortune of the fortress from first to last—having been bound up with that of the Navy—from that eventful night when every vestige of probability that the huge "bluff" put up by St. Petersburg would be carried off disappeared amid the smoke of the guns that strove to destroy the wasps of the Japanese fleet, to another night ten months

later when the waters closed for ever over the "Sevastopol," last of the great ships of the incompetent Stark's powerful Fleet. If the fortress afforded a haven of refuge to the Fleet, the Fleet in its turn long helped (and in a measure which has not been fully appreciated) to keep the enemy from the gates, lent its guns for the strengthening of the land defences, and assisted on numerous occasions to keep open Stoessel's communications with the outside world. For these and other reasons, any real account of the siege must necessarily take cognizance of the naval features of the tremendous struggle.

At dawn on 10th August, in obedience to orders to make a break for the open sea, and, if necessary, fight its way through the cordon of Japanese war-ships, in order to effect a junction with the Vladivostok squadron, Admiral Vitgeft steamed out of Port Arthur. His fleet consisted of the "Tsarevitch" (flag-ship), "Retvisan," "Pobieda," "Peresviet," "Sevastopol," "Poltava," "Askold," "Diana," "Bayan," "Pallada," and "Novik," with eight torpedo-destroyers. A hospital-ship was in attendance. The weather conditions were perfect, for a picnic; a light, translucent haze hung over the water, and even a few hours after daylight the sky was cloudless and only the gentlest of breezes rippled the sea. The fleet included six first-class battle-ships and five fast cruisers. Misfortune overtook the command at the outset, the four-funnelled cruiser "Bayan" striking a mine at 6 o'clock. She was compelled to put back, but she reached the harbour safely and was lying in the eastern basin when General Nogi marched into the town five months afterwards. The egress of the fleet was observed by the scouts outside. By means of wireless telegraphy the fact was made known to Admiral Togo within a very few minutes and passed on to the other ships in the main squadron. There was joy in the fleet on hearing the news; everyone felt that the opportunity long looked for was at last in sight. With the first-class battle-ships "Mikasa," "Asahi," "Shikishima," and "Fuji," and the first-class cruisers "Yakumo" and "Asama" (which were joined some hours later by two more armoured cruisers—the "Nisshin" and "Kasuga") Togo set a course for Encounter Rocks (two small rocks, about 70 yards in length east and west, standing 11 feet above the high-water mark), about 25 miles south-east of Port Arthur. The Russian fleet was steaming very slowly, and was only 20 miles south of Port Arthur at 12 o'clock, nearing Encounter Rocks. Togo at this time was eight miles south-east of these rocks, on a course that seemed certain to intercept his opponent. Both fleets were in line ahead formation, steaming not more than 10 knots. After crossing the enemy's course, Togo, being determined to force a battle if possible, signalled his ships to change their formation to line abreast and steam south-sou'-west. This manœuvre, which is said by a competent judge who witnessed it to have been faultlessly executed, had the desired effect, the Russian ships continuing their southward course. Admiral Togo, of course, had no cause to suspect that the Admiral opposed to him had no other alternative, in face of his instructions, but to make for Vladivostok. Vitgeft, apparently, still cherished the hope that he might succeed in breaking through, as he altered his course slightly to the eastward at about 12.30. As the afternoon came in, the breeze, which had been very light all the morning, freshened. The Japanese squadron continued on the south-sou'-west course almost half-an-hour longer. Togo then again changed his tactics, and in line abreast formation

bore more to the southwards, very shortly afterwards swinging round to the east-nor'-east in line ahead order and steering a course exactly parallel to that which he was following when the enemy was sighted. The two armoured cruisers were now leading the battle line. For some time the two fleets steamed on parallel courses, the Russians having headed almost north-east on observing Togo's tactics. It now looked very much like a race for the Port Arthur roadstead.

Fearing a repetition of the abortive affair of 23rd June, Togo once more changed his course, at the risk of appearing to desire (possibly in order to invite the idea that he desired) to avoid battle. Adopting line abeam formation, he very soon afterwards had his ships in single line ahead, bringing his flag-ship (the "Mikasa") once more in the front of the line, which was heading west-sou'-west. Vitgeft, upon perceiving this, steered almost due south and opened fire. By this time a stiff breeze was blowing, raising a nasty sea, which was not calculated to improve the gunnery practice. The range was about 4¼ miles. Shot and shell now fell around the Japanese ships, throwing up great fountains of water in all directions. Not one struck any of Togo's ships, and not a gun was fired in reply until the distance between the two fleets had been increased to about six miles. Then the "Mikasa" and her consorts opened fire. This was at 2 o'clock, by which time the squadron had been brought round about due east, there being very little danger then that the enemy would be able to make a rush for Port Arthur. One of the first ships to be struck was the five-funnelled cruiser "Askold." She lost no time in taking refuge on the port side of the battle-ships, the other cruisers following her example. The 6-inch, 4·7's, and 3-inch guns of these cruisers (the "Novik's" biggest pieces were 4·7) were of no more service in the long-distance duel than pop-guns would have been, although the two fleets were at this time not much more than five miles apart. The "Tsarevitch," which was still in the van of the enemy's fleet, now bore off to the eastward, evidently with the hope of breaking away. At 3.30 the Japanese ceased firing, as Vitgeft had managed to get his ships beyond an effective range. Admiral Togo consequently ordered increased speed. The two fleets were still running on practically parallel courses. Half-an-hour's work at 16 knots soon brought the "Mikasa" almost in line with the "Poltava," which was in the rearmost position of the enemy's fleet. At 5.35, when the "Mikasa" was 7,900 yards from the "Tsarevitch" and 8,125 yards from the rearmost vessel, Admiral Vitgeft again opened fire, the first shot coming from the "Poltava." About ten minutes after the encounter was renewed, Togo had the supreme satisfaction of seeing the armoured cruisers "Nisshin" and "Kasuga" reinforce his line. Four minutes before six, a 12-inch shell crashed into the port side of the "Mikasa's" forward barbette. Lieut.-Commander Prince Fashimi (Hiroyasu) was on duty at the forward 12-inch guns at the time, but he escaped with slight injuries. All the guns' crew were thrown down by the terrific force of the explosion, and the turntable was damaged. It proved to be only jammed, and it was soon put in working order. An officer who was on board the flag-ship has stated that the impact of the shell was so terrific "that the action of the compressed air tore a portion of the uniform from off the Prince." At 6 o'clock Admiral Togo, having borne somewhat more to the east-nor'-east, was not much more than four miles to the south of his opponent, and the easier range was telling with deadly effect on the Russian ships. The

"Peresviet" had one of her masts shot clean away. Other ships in the line were struck several times, but the flag-ship fared worst. A 12-inch shell from the "Mikasa" crashed into her forward bridge near the conning tower, carried away most of the bridge, and killed Admiral Vitgeft and the second commander, and mortally wounded Vice-Admiral Massevitch and several officers. The captain of the ship was also wounded in the arm. The damage was not wholly on the Russian side, however, for at 6.12 another huge shell struck the Japanese flag-ship right in front of the bridge, whereon the Admiral, Captain Shimamura, Chief of Staff, the commander of the ship (Captain Ijichi), and five other officers were standing. Admiral Togo and his able staff officer were not struck, but Captain Ijichi and another officer were wounded slightly, and Lieutenant Fujise, the officer in charge of the signals, and a few men who were standing close by the chart room under the bridge were killed on the spot. For several minutes the gravest apprehensions were felt on the Admiral's account; happily he escaped without a scratch. There was great rejoicing on board when it was learned that the Commander-in-Chief had been spared. It was a very narrow escape. Some time after this, the Admiral yielded to the strenuous representations of a number of his officers, and allowed himself to be placed in the conning tower.

A few minutes after the "Tsarevitch" was struck by one of the "Mikasa's" 12-inch shells, she was seen to list heavily to port, and then to swerve round to starboard as though she had lost steerage way. A little later she recovered her equilibrium. In the meantime the "Retvisan," "Pobieda," and "Peresviet," continuing to take their course from the flag-ship, also circled to starboard. The enemy's battle-ships and cruisers were now devoid of all semblance of order, and for a moment or two the "Pobieda" and "Peresviet" seemed likely to ram each other. And they probably would have collided had not the "Sevastopol" and "Poltava" sheered off and so mitigated the confusion somewhat. Not more than 3,750 or 3,800 yards separated the "Mikasa" from the "Sevastopol" at this time; and owing to the way in which the Russian ships were huddled together, this was approximately the range of all the vessels. More than once the smoke of the exploding shells interposed a friendly screen between the hostile ships. At 7 o'clock Togo was further reinforced by the arrival of a second-class battle-ship and two coast-defence vessels. This more than offset the numerical disadvantage under which Togo opened the engagement, as with his additional reinforcements he was able to bring the concentrated fire of twelve ships against Rear-Admiral Ukhtomski's ten. (Prince Ukhtomski succeeded to the command of the Russian squadron upon Admiral Vitgeft's death.) Several of his ships suffered very heavily, notably the "Retvisan." The "Pobieda" lost both her masts, and the "Askold" was holed between wind and water, while one of her funnels was shot away and a gun was dismounted. At 8 o'clock, under the kindly protection of a waning light, the enemy broke and fled, the "Peresviet," "Poltava," "Retvisan," "Pobieda," "Sevastopol," and "Pallada" heading for Port Arthur, while the "Tsarevitch" and "Askold" (with a destroyer, the "Grozovoi") the "Diana" and the "Novik" found their way south. Admiral Togo, recognising the fruitlessness of a pursuit with his big ships, then signalled to his destroyer and torpedo-boat flotillas to hang on to the retreating foe and harass them in every way possible. Two or three attempts were made to

torpedo the fleeing vessels, but the result (which may doubtless be accounted for by the blackness of the night, and all accounts agree that the night was as black as pitch) was not striking, although there is reason to believe that the "Pallada" was hit once by a torpedo discharged by the destroyer "Murakumo." The "Pallada" succeeded in re-entering Port Arthur on the 11th. The "Tsarevitch" managed to make a neutral port in Kiaochao Bay, where she arrived on the morning of the 12th in a terribly battered condition. Three destroyers also took refuge in the German port. The naval ensigns of these war-ships were hauled down in the presence of the Governor-General of the German Colony on the morning of the 22nd August, when the breech mechanism of the guns was removed. The "Askold" and the 28-knot destroyer "Grozovoi" found an asylum at Shanghai, where their arrival on the afternoon of the 13th gave rise to much excitement, fear being entertained that the Chinese authorities would be powerless to enforce the neutrality of the port; the "Diana" reached Saïgon on the 24th; and the "Novik," true to the glorious reputation won in antecedent stages of the conflict, successfully steamed half-way round Japan, and put into Korsakoff in Southern Saghalien, on the 19th or 20th. She was evidently trying to get through to Vladivostok by way of La Perouse Strait. The protected cruisers "Tsushima" (3,420 tons, carrying six 6-inch guns) and "Chitose" (4,750 tons, two 8-inch, ten 4-inch guns) caught her just outside Korsakoff Bay on the 20th; game to the last, the "Novik" fought the "Tsushima" until disabled, and then ran back, not before piercing the Japanese cruiser twice. During the night her captain ran her ashore, and there the "Chitose" found her early on the 21st and riddled her into unserviceability. The crew escaped from the ship as soon as she touched shore.

Only darkness saved the Russian fleet from either complete destruction or absolute surrender. The ships had lost all pretence of battle formation, and were more or less at Togo's mercy. Most of them were much damaged by gun-fire. Some of the Japanese ships passed through the severe ordeal scathless. The flag-ship, against which the Russians seemed to pour forth all the vials of their wrath, suffered much more than her consorts. Four officers and 28 of her men were killed, and 88 were wounded. The first-class cruiser "Yakumo" lost 12 killed and 10 wounded; the "Nisshin" 16 killed and 31 wounded; while the "Kasuga," "Chinyen," "Idzumi," and "Asahi" had 11, 6, 1, and 2 men wounded respectively. A shell struck the destroyer "Asagiri" and killed a warrant officer and 8 men; torpedo-boat No. 38 lost a man, and had 7 men wounded, while No. 28 had a sub-lieutenant seriously wounded. None of Admiral Togo's ships were so seriously damaged as to be unfit for immediate service outside Port Arthur, whither, indeed, most of them returned on the 11th to resume the work of the blockade.

Although the final part played by the Russian Navy in connection with the siege cannot be said to have seriously affected the military situation on the peninsula, the war-ships which took refuge in Port Arthur after the abortive attempt to break through the cordon of Japanese vessels in August continued to be an object of considerable attention on the part of the Commander-in-Chief long after all immediate interest in the battle of the 10th August had died away. Indeed, it was not until 203 Metre Hill fell into his hands on the 5th December, and full use had been made of the peculiar advantages

of the height for the direction of gunnery that the war-ships ceased to be a part of the defences of the great fortress. Until they were destroyed, not only were the battle-ships and cruisers, crippled though they were, a menace to the blockading squadron, on the efficiency of whose preventive work in some measure depended Nogi's ability to crush the defence, but they constituted so many movable forts and arsenals. Small wonder, therefore, that much anxiety was shown when the capture of 203 Metre Hill gave the besieging forces a view of sections of the harbour which had previously been hidden, to determine the fate of the great ships beyond the possibility of doubt. That the seizure of this hill materially affected the safety of the harbour is shown by the fact that as soon as the Japanese gunnery officers set up an outlook on its summit, the big howitzer batteries sunk four battle-ships, two cruisers and a gun-boat. These were the "Retvisan," "Pobieda," "Poltava," and "Peresviet" (battle-ships), "Pallada" and "Bayan" (cruisers), and "Gilyak" (gun-boat). The "Sevastopol" succeeded in placing herself out of reach of the guns by leaving the harbour on the morning of the 9th December and anchoring outside, under Chengtoushan. One of the staff officers told me on 11th December that, as 203 Metre Hill had been secured as a place of observation and offence, and the war-ships had been disposed of, there was no immediate hurry to force Stoessel's hands. Admiral Togo paid a flying visit to General Nogi on the 20th December in order to go out to 203 Metre Hill and satisfy himself by personal observation that the remaining ships of the fleet, which had been successively commanded by Vice-Admiral Stark, Admiral Makaroff, Admiral Vitgeft, and Rear-Admiral Prince Ukhtomski, need not be seriously considered any further. The Admiral, who is a quiet, unpretentious man of small stature, came and went so quickly and with so little fuss, that not half-a-dozen outside of Head-quarters knew anything whatever about the visit until it was all over; but when the hero of many great fights stepped down from the train at Dalny to return to his ship, he knew for a certainty that he need hesitate no longer to return with his main squadron to Japan to repair and refit.

The Russians took advantage of the departure of the fleet on the 10th August to send a destroyer (the "Resitelni") across to Chefoo with despatches, etc. She left Port Arthur on the night of the 10th, and, aided by the darkness, succeeded in reaching Chefoo, not without being chased by two Japanese destroyers, the "Asashio" and "Kasumi." Her whereabouts being discovered on the 11th, the destroyers remained outside Chefoo to intercept her when she put to sea. At night the Japanese destroyers steamed inside the bay, and ascertained that the "Resitelni" had not only not been disarmed, but that she had coaled. They returned at three o'clock the following morning. A lieutenant and ten petty officers and men of the "Asashio" were then sent on board the enemy's destroyer with a message to the commander. This message stated that as the 24 hours for which he was entitled to enjoy the protection of the neutral port would expire at 4 a.m., he was offered the alternative of either putting to sea at that time or surrendering; and the commander was further informed that if he refused to adopt either course the Japanese would take such steps as seemed necessary. The Russian commander peremptorily refused these terms, and gave orders to his men to prepare to blow up the vessel. Finally he seized Lieutenant Terajima, of the "Asashio" and sprang into the sea with him, another Russian at the

same time gripping the Japanese interpreter and jumping overboard. The crew then threatened to use force, but before anything else was done an explosion shook the vessel from stem to stern, killing one of the Japanese petty officers and seriously wounding several of the men. Upon this the Japanese destroyers seized the vessel and took her in tow to the naval base.

Although none of the larger war-ships left the harbour for several days after the naval battle (the "Sevastopol" steamed out on the 23rd August to bombard the Japanese lines, but ran foul of a mine and had to put back), the destroyers continued active. Two of the latter came to grief the following day, one being sunk by a mine two miles east of Lao-ti-shan, while the other was compelled to return to harbour badly damaged. A week later Rear-Admiral Gregorivitch sent out a flotilla, including four special mine-clearing vessels. During the operations one of the latter struck a mine and went down. For a long time submarine mines continued to be the principal source of danger besetting the vessels of either belligerent. Another terrible disaster of this kind befell the blockading squadron on the 18th September. The cruiser "Heiyen," a powerful little vessel of 2,000 tons, captured from the Chinese, and carrying one 10-inch, two 6-inch, and a number of smaller guns, ran on a mine in the neighbourhood of Pigeon Bay and sank in less than five minutes. She had been covering an advance of the right wing, and was on picket duty when the disaster overtook her. Only four of her crew—two petty officers and two bluejackets—were saved. These managed to reach one of the small islands, where they were picked up by the "Saiyen." Captain Asaba and all the officers and 182 men perished. This heavy loss of life is explained by the fact that the disaster occurred in stormy weather. Two of the boats were lowered, but they immediately capsized.

Early on the 15th November another attempt was made to run a destroyer through the blockading lines, advantage being taken of the severe snowstorm which set in during the night of the 14th. The destroyer "Rotstoropny" was selected for the work. This time also the Russians were successful in eluding the vigilance of the Japanese cruisers and destroyers, and the daring little craft entered Chefoo harbour in safety at 7 a.m. on the 16th. After landing its despatches the commander returned on board. Meantime Captain Chen, of the Chinese cruiser "Haiyung," boarded the destroyer, and an officer of the American cruiser "New Orleans" also went on board; but the Russian officers refused to give any information beyond the fact that they had come from Port Arthur. Shortly after the commander's return, preparations were made to blow up the vessel. It was at first stated that the plan was to disarm the destroyer, and let the Chinese authorities intern her until the termination of hostilities; but the Russians apparently altered their mind, as they ultimately blew her up and sank her. Before this took place, however, the Taotai of Chefoo lodged with the Russian Consul a demand for the removal of all arms and ammunition to the Chinese cruiser in port. He further insisted that all the "Rotstoropny's" officers and crew should give themselves up on board the said cruiser, and take the customary oath not to participate further in the war. These conditions were accepted by the Consul, who agreed that they should be complied with during the night of the 17th; but the commander evaded the difficulty by destroying his vessel.

Several foreign craft were overhauled and captured from time to time by ships of the blockading squadron; on one occasion a fleet of 26 Chinese junks being caught in an attempt to convey fresh provisions to the beleaguered garrison. On the 19th November the steamer "Veteran" was captured with a cargo of blankets, clothing, medical supplies, and salted meat.

At the end of November another Japanese ship fell a prey to the enemy's floating death-traps—the cruiser "Saiyen," of 2,300 tons, carrying two 8·2-inch guns, one 6-inch, and eight Q.F. guns, striking a mechanical mine off Port Arthur. She sank almost immediately. Thanks to the gun-boat "Akagi" being near by, most of her crew were saved, only 38 in all, out of 228 who were on board, being lost. Captain Tajima was amongst the number who went down with the unfortunate vessel, which, like the "Heiyen," fell a prize to Japan during the war with China.

Several torpedo attacks were made on the "Sevastopol" in December. Two attempts were made to torpedo her during the night of the 11th, shortly after midnight, but such a hot fire was opened upon the flotillas that neither was successful. The attack was renewed the next night, with no better result, two of the boats that took part in the first attempt, led by Lieut.-Commander Arakawa, being struck by the battle-ship's shells and compelled to retire under tow. The battle-ship was prepared for an attack, having a line of booms down in addition to torpedo-nets. The next attack was made at 6 a.m. on the 13th, under command of Lieut.-Commander Seki. Some of the boats failed to get within striking distance, owing to the glare of the search-lights and the activity of the shore batteries, but two managed to get to close quarters and fired their torpedoes. One of the missiles exploded and threw up a great column of water, but it is doubtful if it struck the ship. Both torpedo-boats were hit, one of the shells wounding three men.

During the small hours of the morning of the 14th, two more flotillas, each consisting of three boats, ran in on the same dangerous enterprise, under command of Lieut.-Commander Otaki and Lieutenant Miyamoto this time. Heavy snow was falling outside, and the first-named officer was unable to get within sight of either the "Sevastopol" or the "Otvajny." The "Otvajny," with a transport, was anchored close in shore under Mantoushan. Lieutenant Miyamoto was more fortunate, being aided to some extent by the skill with which the Russians on shore kept their search-lights on Lieut.-Commander Otaki's flotilla. With three torpedo-boats he ran close enough in to attack at four o'clock. His own boat torpedoed the "Sevastopol," while Lieutenant Nakamuda's singled out the transport. The third boat, commanded by Lieutenant Nagata, who, it will be remembered, was on board the "Yedo Maru" during the third blocking expedition, was sunk by the battle-ship, and not one on board returned.

Reconnaissances made during the day showed that the "Sevastopol" still held out. Like a lion at bay, robbed of its consort and sorely crippled, the patched and battered ship proved herself well worthy of bearing a name that carried men's minds back to the Crimea and another great siege. Accordingly, plans were made to renew the attack when night set in. Six flotillas took part in this attempt to dispose of the last surviving efficient unit of a once mighty fleet. About midnight on the 14th one flotilla, under Lieut.-Commander Uchida, ran into the enemy's anchorage mainly to reconnoitre. The

search-lights and guns of the shore batteries showed that there was not the slightest likelihood of any flotilla being able to surprise the enemy, and the boats were unable to make an effectual attack. Two of the torpedo-boats were hit by shells, and in one boat three men were wounded. Between two and four o'clock the following morning (15th December) five flotillas steamed into the bay under Cheng-tou-shan. These were in charge of Commander Kasama, and Lieut.-Commanders Jinguji, Otaki, Seki, and Kawase. The plan agreed upon was that Commander Kawase's flotilla should lead the way in order to divert the enemy's attention, while the other flotillas ran in and torpedoed the ships. Different lines of approach were agreed upon by the commanders, so that if one failed in one direction another might drive a torpedo home in some other part of the doomed ship. In face of a fierce fire from the shore batteries and occasional shots from the "Sevastopol" herself, the torpedo officers gallantly forced their way. One or more boats of each command succeeded in approaching near enough to discharge torpedoes, several of which exploded, whether alongside the ship or at the nets and booms could not be accurately ascertained. One of the flotillas, namely, that commanded by Lieut.-Commander Otaki, made a particularly daring attack. Each of the boats got within a short distance of the ship, and from each in turn a torpedo was seen to plunge. In retiring, the boats had to run the gauntlet of a number of guns. One boat was struck repeatedly, the lieutenant in command and five men being killed, while her engines were disabled by another shell. Lieutenant Nakahara thereupon steered round to her assistance, and endeavoured to tow her out of danger. No sooner had the tow-rope been secured than it was severed by a shell, and a minute later another shell hit the boat towing and killed a bluejacket. Shot and shell were now falling about the two little craft continuously, and Lieutenant Nakahara decided to rescue the survivors and leave the boat to her fate. This was done, and the damaged boat soon afterwards went down. Lieut.-Commander Kawase's flotilla of four torpedo-boats also suffered, shells striking the commander's boat, killing two of the crew, and wounding a lieutenant and two others, while Lieutenant Shono's boat was so badly damaged that she had to be taken in tow. A man was killed on board the latter boat, and five men were wounded.

The final attack was made on the night of the 15th, when there were some of the enemy's torpedo-boats, as well as the gun-boat "Otvajny," under Cheng-tou-shan, to share with the "Sevastopol" the brunt of the blow. On this occasion, also, the dauntless assailants were assisted by the weather, as heavy snow fell during the night, and a search-light is of very little use in a snowstorm. Two flotillas participated in this attack, commanded by Lieut.-Commander Seki and Lieut.-Commander Ezoye respectively. Lieut.-Commander Seki's boats reached the enemy's anchorage at about 4.30 a.m., and dashed in between the "Sevastopol" and "Otvajny," launching their torpedoes right and left. Each torpedo struck and exploded. One of the Russian torpedo craft opened fire on the boats, but did no damage to speak of. Throughout the attack the ships and two of the forts kept up an incessant fire. The other flotilla then steamed in. As the boats swept by each fired a torpedo at the ships, and shots were exchanged with some of the enemy's smaller craft. Two men were killed and two wounded on the attacking boats. Lieut.-Commander Ezoye's own boat was the last to advance, having been delayed by some hurried

repairs just as she was about to start. Running boldly in to where the "Sevastopol" was anchored, going close enough to hear the men on board talking, she torpedoed her. Unfortunately the intrepid officer paid the penalty of his boldness with his life, a shell cutting him completely in two. His boat, however, returned to the base in safety. Admiral Togo, in reporting these operations to the Imperial Military Headquarters, dwelt with regret on the fact that, in spite of the determined attacks, night after night, and the large number of torpedoes that were seen to explode, "the injuries done to the enemy's vessels" could not be ascertained at the time of writing. He added that one of the watch towers had reported that one of the enemy's destroyers could be seen lying on the beach in a derelict condition, "her hull and propeller showing at ebb tide." In a later report the Admiral expressed the opinion that "at least one of the torpedoes" struck the "Sevastopol" on the night of the 15th, "as early on the morning of the 16th the crew of the vessel were observed to be in great confusion, and were pulling a hawser from the land." The report further stated that the torpedo struck on the port side astern, damaging "the riveted seams of her armour plates . . . to an extent of 8 feet"; that she was lying with her bow seaward, her stern resting on the bottom; that the muzzles of the guns on the main deck were almost touching the water on the starboard side; that three of the aft lower deck windows were immersed; and that a torpedo-boat, a pumping-ship, and what appeared to be a mine-laying vessel were standing by assisting." The body of the hull of the "Sevastopol" was not protected with netting, but there was netting attached to her lower yard, which was placed crosswise in front of her bow. At a point about 30 or 40 feet ahead there was placed a boom, constructed of rectangular logs three feet in length, fastened with iron chains and covered with netting. Admiral Togo steamed in one morning to take personal observations of the stout old battle-ship. He found her lying in shallow water, with a list of 10° and bows depressed, about 430 yards off the foot of Cheng-tou-shan. Her crew were pumping out the damaged part. In view of the condition of things in Port Arthur, no hope could be entertained of repairing her, said the Admiral, adding: "It has, therefore, been clearly established that the battle-ship has nearly lost both her fighting and navigating capacity." Her redoubtable commander, Captain von Essen, who, like Togo himself, is a sturdy man of small stature, a typical seaman, could not have summed up his ship's condition more carefully, for in truth, she had "nearly lost both her fighting and navigating capacity." A few hours later the "Sevastopol" was taken out some distance—as near as possible to the spot where the "Petropavlovsk" disappeared—and was there sunk by Captain von Essen in deep water.

This brings us virtually to the end of the Navy's share in the siege operations. A week after the final attack on the "Sevastopol," the Commander-in-Chief of the combined fleet briefly reviewed some of the more striking events of the investing and blockading operations. After paying a well-merited tribute to the "strenuous and persistent efforts of the investing Army, to whose valour and courage" (the silent Togo permitted himself to say) "no parallel can be found in history," the intention to withdraw a portion of the fleet was announced, and the work of the previous seven and a half months thus summed up:—

"During the enforcement of this long blockade (since 1st May), there have been incessant dangers from the enemy's mechanical and floating mines, as well as perils due to the heavy seas and dense fogs. At first we lost the 'Miyako,' 'Yoshino,' 'Hatsuse,' and 'Kaimon,' and later the 'Heiyen' and 'Saiyen.' Not a few loyal souls have been lost, but fortunately we have been able to maintain the blockade, frustrating the enemy's occasional attempts at sortie. And, finally, through the powerful co-operation of the investing Army, we have succeeded in almost entirely destroying the enemy's fleet in this quarter, while a severe blow was dealt to his Vladivostok Squadron by our Second Fleet, thus preventing that squadron's reappearance on the high seas. In recording these results, we can but be convinced, more profoundly than ever, of the greatness of the power of H.M. the Generalissimo's illustrious virtues. I deem it a duty I owe to all concerned to put on record that during these months all the detachments placed under my command have, each in its peculiar capacity, acquitted themselves to my complete satisfaction. The same has to be said of the blocking parties engaged in the forlorn hope of sealing the entrance to the harbour, of the special sweeping flotillas which dragged for the enemy's mines in the face of danger, and of the men placed in the advanced watch-towers, who, exposed to the enemy's fire, kept watch over his vessels, all rendering the special services required of them, which have contributed greatly to the maintenance of the blockade in those waters."

Now, with reference to the lessons of the war—of which, in a very real measure, Port Arthur may be said to have been a pivotal point just as it focuses the causes of the war—it seems to me that the most important, and at the same time the most valuable, one to this country lies in the demonstration of the power of a Navy to say when oversea military operations may and may not be undertaken. If Admiral Togo's work before Port Arthur proves anything beyond the fine prowess and superb nerve of Japanese officers and seamen, it establishes what I assume to be a fact: that the success of any campaign where the theatre of war is in a country with an extensive seaboard can be neutralised, if not frustrated, by the Power which holds command of the sea. The world has heard much more of the operations ashore than of those afloat, not unnaturally, the correspondents on whom the Press relied in some measure for intelligence of the progress of operations, having been denied the privilege of witnessing the Navy's work. It is far from my intention to minimise or underrate the bearing of the land operations—their value is obvious—but I do say that neither Nogi nor Oku, neither Kuroki nor Nodzu would have gained such laurels had Togo failed outside Port Arthur. I may be told that I am over-stating the case, inasmuch as transports packed with troops were despatched from Japan long before the question as to the command of the sea had been decided. It is quite true that troops were landed in Corea at the outset, but it must not be forgotten that the transports were convoyed by a force of war-vessels capable of overwhelming the small contingent Russia was in a position to throw across their route. Many anxious weeks ran into months before the General Staff in Tokio felt warranted in venturing to despatch

transports across the Yellow Sea. Such ships as were sent to reinforce the first Army that moved northward from Chemulpo and Ping-yan to the Yalu had to creep cautiously along the Corean coast, and for a long time the route had to be patrolled and guarded by torpedo-boats and swift cruisers. Not until the middle of May, when three months —absolutely invaluable time—had been lost, was it deemed safe to disembark an Army on the mainland near the Elliott Islands. During that time the Russians reinforced the garrison, completed their defence works, which were in a perilously backward state, and replenished their stocks of ammunition and stores. The newspaper correspondents, with one or two exceptions, are very irate with Stoessel for what they are pleased to term in their abundant wisdom a disgracefully premature surrender. I have not taken that view myself, for reasons which, in my judgment, are unanswerable, so I cannot pretend to imagine the extent of the indignation which would have been aroused had the earlier attacks on the fleet been more successful, and opened a way for the investment of the stronghold in April-May, instead of July-August.

The naval operations have certainly afforded resistless evidence of the enormous value of the sea-going destroyer. The Japanese seem to possess an inherent fitness for torpedo work. They are quick, alert, what our naval men, I believe, call "smart," ever ready to detect openings, and prompt to convert ideas into action. Our distinguished Chairman, if my memory as a newspaper man does not fail me, was the first British officer of flag rank to perceive this, when serving as Commander-in-Chief of the China Squadron during the China-Japan War, more particularly during the attacks upon Wei-hai-Wei in January and February, 1895. Some months ago, in the course of a timely and instructive paper read here by Lord Ellenborough, R.N., several measures were referred to "for the purpose of securing our own coasts and harbours against surprise." I venture to suggest that one of the most effective, and at the same time most economical, methods would be to form definite and recognised flotillas of three or four destroyers (just as we have cruiser and battle-ship squadrons), assigning one flotilla to each of the chief ports of the United Kingdom, and entrusting the senior officers with the patrol of the coast in co-operation with the Coastguard. Even if nothing more were gained by the adoption of such a plan, unquestionably this much good would accrue: the officers and men would acquire expert knowledge of every cove, harbour, and haven—knowledge which might prove highly serviceable in time of stress—and would grow accustomed to joint and united evolutions. A possible foe contemplating a wild rush of some national surprise party anxious to emulate the successful deeds of our first Norman King, would then have to take into account numberless little naval bases dotted all along the coast, and many an out-of-the-way seaport which probably does not see the white ensign for years at a stretch would become familiar with its beauty and its import.

I suppose there are few who have followed the great naval events of the recent conflict who have not been struck with the decisive influence that steam and guns of high range must have upon the issue of the next epoch-making struggle for maritime supremacy. One of the lessons that Togo has given, I think, is that it is possible to manœuvre so as to keep at such a distance as to minimise the danger of excessive punishment, while at the same time holding the foe

"During the enforcement of this long blockade (since 1st May), there have been incessant dangers from the enemy's mechanical and floating mines, as well as perils due to the heavy seas and dense fogs. At first we lost the 'Miyako,' 'Yoshino,' 'Hatsuse,' and 'Kaimon,' and later the 'Heiyen' and 'Saiyen.' Not a few loyal souls have been lost, but fortunately we have been able to maintain the blockade, frustrating the enemy's occasional attempts at sortie. And, finally, through the powerful co-operation of the investing Army, we have succeeded in almost entirely destroying the enemy's fleet in this quarter, while a severe blow was dealt to his Vladivostok Squadron by our Second Fleet, thus preventing that squadron's reappearance on the high seas. In recording these results, we can but be convinced, more profoundly than ever, of the greatness of the power of H.M. the Generalissimo's illustrious virtues. I deem it a duty I owe to all concerned to put on record that during these months all the detachments placed under my command have, each in its peculiar capacity, acquitted themselves to my complete satisfaction. The same has to be said of the blocking parties engaged in the forlorn hope of sealing the entrance to the harbour, of the special sweeping flotillas which dragged for the enemy's mines in the face of danger, and of the men placed in the advanced watch-towers, who, exposed to the enemy's fire, kept watch over his vessels, all rendering the special services required of them, which have contributed greatly to the maintenance of the blockade in those waters."

Now, with reference to the lessons of the war—of which, in a very real measure, Port Arthur may be said to have been a pivotal point just as it focuses the causes of the war—it seems to me that the most important, and at the same time the most valuable, one to this country lies in the demonstration of the power of a Navy to say when oversea military operations may and may not be undertaken. If Admiral Togo's work before Port Arthur proves anything beyond the fine prowess and superb nerve of Japanese officers and seamen, it establishes what I assume to be a fact: that the success of any campaign where the theatre of war is in a country with an extensive seaboard can be neutralised, if not frustrated, by the Power which holds command of the sea. The world has heard much more of the operations ashore than of those afloat, not unnaturally, the correspondents on whom the Press relied in some measure for intelligence of the progress of operations, having been denied the privilege of witnessing the Navy's work. It is far from my intention to minimise or underrate the bearing of the land operations—their value is obvious—but I do say that neither Nogi nor Oku, neither Kuroki nor Nodzu would have gained such laurels had Togo failed outside Port Arthur. I may be told that I am over-stating the case, inasmuch as transports packed with troops were despatched from Japan long before the question as to the command of the sea had been decided. It is quite true that troops were landed in Corea at the outset, but it must not be forgotten that the transports were convoyed by a force of war-vessels capable of overwhelming the small contingent Russia was in a position to throw across their route. Many anxious weeks ran into months before the General Staff in Tokio felt warranted in venturing to despatch

transports across the Yellow Sea. Such ships as were sent to reinforce the first Army that moved northward from Chemulpo and Ping-yan to the Yalu had to creep cautiously along the Corean coast, and for a long time the route had to be patrolled and guarded by torpedo-boats and swift cruisers. Not until the middle of May, when three months —absolutely invaluable time—had been lost, was it deemed safe to disembark an Army on the mainland near the Elliott Islands. During that time the Russians reinforced the garrison, completed their defence works, which were in a perilously backward state, and replenished their stocks of ammunition and stores. The newspaper correspondents, with one or two exceptions, are very irate with Stoessel for what they are pleased to term in their abundant wisdom a disgracefully premature surrender. I have not taken that view myself, for reasons which, in my judgment, are unanswerable, so I cannot pretend to imagine the extent of the indignation which would have been aroused had the earlier attacks on the fleet been more successful, and opened a way for the investment of the stronghold in April-May, instead of July-August.

The naval operations have certainly afforded resistless evidence of the enormous value of the sea-going destroyer. The Japanese seem to possess an inherent fitness for torpedo work. They are quick, alert, what our naval men, I believe, call "smart," ever ready to detect openings, and prompt to convert ideas into action. Our distinguished Chairman, if my memory as a newspaper man does not fail me, was the first British officer of flag rank to perceive this, when serving as Commander-in-Chief of the China Squadron during the China-Japan War, more particularly during the attacks upon Wei-hai-Wei in January and February, 1895. Some months ago, in the course of a timely and instructive paper read here by Lord Ellenborough, R.N., several measures were referred to "for the purpose of securing our own coasts and harbours against surprise." I venture to suggest that one of the most effective, and at the same time most economical, methods would be to form definite and recognised flotillas of three or four destroyers (just as we have cruiser and battle-ship squadrons), assigning one flotilla to each of the chief ports of the United Kingdom, and entrusting the senior officers with the patrol of the coast in co-operation with the Coastguard. Even if nothing more were gained by the adoption of such a plan, unquestionably this much good would accrue: the officers and men would acquire expert knowledge of every cove, harbour, and haven—knowledge which might prove highly serviceable in time of stress—and would grow accustomed to joint and united evolutions. A possible foe contemplating a wild rush of some national surprise party anxious to emulate the successful deeds of our first Norman King, would then have to take into account numberless little naval bases dotted all along the coast, and many an out-of-the-way seaport which probably does not see the white ensign for years at a stretch would become familiar with its beauty and its import.

I suppose there are few who have followed the great naval events of the recent conflict who have not been struck with the decisive influence that steam and guns of high range must have upon the issue of the next epoch-making struggle for maritime supremacy. One of the lessons that Togo has given, I think, is that it is possible to manœuvre so as to keep at such a distance as to minimise the danger of excessive punishment, while at the same time holding the foe

within effective range. Doubtless it is true that not all fighting admirals would be content to keep their ships beyond the range of 6-inch guns, but granting the probability of the adoption of very dissimilar tactics, granting the probability of an attempt to get to comparatively close quarters, would the long-range gunners necessarily be at a disadvantage even then? Not unless the advantage of superiority of speed were thrown away by bad tactics, or the skill of the gunners failed with the shortening of the range, which is wholly unlikely. High-angle fire may not be so powerful as direct fire against a ship's citadel, but that it is sufficiently destructive to place the strongest battle-ship *hors de combat* is not open to question.

If I may indulge in that easy form of speculation which is generally held to possess no more value than an after-thought, I should like to advance an idea which may sound as presumptuous as it is visionary. I refer to the methods pursued for the bottling up of the Russian fleet, methods spread over a vital period of three months, and executed with magnificent daring and heroism. These methods involved the sacrifice of 14 large merchant steamers, and, in the end even, the object aimed at was but partially accomplished. Would it not have been better to have sent in the old but still serviceable turret-ship "Chin-yen" (now rated as a second-class battle-ship) with a crew just sufficient to work the protected armament and navigate the ship? In the light of the measure of success which attended the use of ordinary merchantmen, in view of the fact that most of these succeeded in making the mouth of the harbour, some actually penetrating the narrow channel between Golden Hill and Tiger's Tail before they were sunk, it is not at all unreasonable to assume that the "Chin-yen" would have had little difficulty in forcing her way into the channel. Had she been navigated that far it is almost certain her turret guns would have swept the shore batteries, and carried widespread destruction to many of the ships and much of the property within reach. Had such a vessel been sunk athwart the fairway the channel must have been effectually sealed, and it is possible that her destruction would have saved the "Hatsuse" and "Yashima." When great sacrifices have to be made in any case, it is usually the safest and the more economical course to take the boldest and most drastic measure at the outset.

We have heard much of real or alleged incompetency on the part of Russian generals, but I seriously question if any of the chief servants of the Tsar betrayed greater ineptitude than Vice-Admiral Stark, against whom scarcely a note of adverse criticism has been heard; yet his inaction, during the first few weeks of the war, his unmistakable unwillingness to risk a general engagement, probably cost his country more than the failure of any of the great leaders on land. Had Stark put to sea on the morning of the 9th February, when he still had five first-class battle-ships to pit against Togo's half-dozen, and fought his ships with spirit—had he had the grit to follow the Japanese fleet up after the hour's bombardment, and had he forced a general action at all risks, it is hardly likely that the result would have been so one-sided as all the subsequent engagements were, unless we are to suppose that incompetency and inefficiency reigned throughout the fleet. Even defeat, providing his ships carried some of the foe's ships down with them, would have been better than the helpless policy of waiting which was pursued. But the opportunity was allowed to slip away, and from start to

finish there was little or no initiative shown. A negative course commended itself to one and all the Russian Admirals, with the one exception of Makaroff. That Makaroff's death was a great blow to the defence cannot be gainsaid. It is worthy of note, that not one attempt was made by the fleet at Port Arthur to interfere with the passage to and fro of an almost continuous line of transports.

One more point calls for notice—the appalling destructiveness of submerged mechanical mines. It is a remarkable fact that infinitely greater mischief was wrought by these terrible weapons of offence and defence, the more terrible because invisible, than any other destructive agency. Prior to the recent war much was heard from time to time of the potential power of the torpedo and the submarine against battle-ships and heavily-armoured cruisers, but relatively very little was said, I think, of the floating contact mine. The part these fearful contrivances played in the war is perhaps the most noteworthy of all the methods of destruction that were called into requisition. Not only were the "Petropavlovsk," the "Yenissei," the "Boyarin," and one or two other vessels on the Russian side destroyed by coming into contact with mines, but, as everyone now knows, the Japanese lost the "Hatsuse," "Yashima," "Saiven," "Miyako," and "Heiyen" through mines also. Nor does this exhaust the list. I had it from Captain von Essen's own lips that his ship, the "Sevastopol," was badly damaged by a floating mine on the night of the 23rd June when returning with the squadron from sea. She managed to make the harbour at daylight the following day, and by working day and night she was repaired in the course of six weeks. The "Sevastopol" was similarly imperilled on the 23rd August. This time the disaster overtook her about noon, when returning from an attack on General Nogi's left wing. On both occasions she was struck on the port side forward. With great difficulty she was taken back to port, where the repairs, which were rendered additionally difficult by reason of the constant bombardment, occupied almost three months. It is evident that far more havoc was wrought by these submarine mines than all the torpedo-boats and battle-ships put together. It appears to me that this is the most striking object lesson of the naval operations.

I am afraid I have trespassed too much on your patience to take up a question which was opened by Lord Ellenborough in the lecture to which I have already referred — the question of the dissemination of news. The question is really a most important one. It is too late to take it up fully now, but I must say that this country is indeed in a pitiable plight if it has to go to Japan for enlightenment in regard to Press laws. I am an enthusiastic admirer of most things Japanese, but there are a few things in which Japan is sadly behind, and one of those things is her Press regulations. Those regulations, which are not without some good features, would have been revised and made less illiberal long since had the editors of the country been above subterfuges. In other words, had the editors insisted upon acknowledging their responsibility instead of hiding behind "dummy" editors who obligingly and for a consideration undertook to bear whatever punishment might fall as a result of editorial indiscretion or editorial obstinacy, it is certain they would long ago have made such an outcry that the interpretation of offences would not have rested for many years, would not now rest, with one or other of the Ministers of State. Un-

doubtedly some regulations, some precautions are necessary here, but they can be effected without going back to the standard of the seventeenth century. I think, for instance, that legislation is desirable in the direction of fastening upon editors and proprietors of newspapers—and I speak as an editor and proprietor of a daily newspaper myself—full and unqualified responsibility for matter published in their journals. I would go farther: I would say that the time has come when to ensure due sobriety in the conduct of journalism such legislation is essential. Some measure authorising a particular Department of State to require production of the original despatch on which a given report is based would in itself exercise a salutary effect. As to the control of war correspondents, I confess I have little sympathy with Army and Navy officers who cry out about the impossibility of restricting the correspondent's power of mischief. To admit this is to confess incapacity. Correspondents are, or should be, subject to military discipline when in the field; and if an officer shrinks from dealing with an offender who deliberately seeks to circumvent the regulations and orders of the headquarters staff with reference to the despatch of intelligence, he is, to my mind—I am putting the matter bluntly—absolutely unfit for his post. Formulate reasonable regulations, exercise rigid care in granting passes, control the despatch of news to your heart's content, as the exigencies of the situation may demand; and *shoot* the first correspondent who wilfully disregards or violates their more vital features. Personally, I believe in the usefulness, if not the necessity of the correspondent, but he can do the more important part of his work despite what may appear to him to be vexatious and unnecessary delays. The wild eagerness of the daily journal for instantaneous news of great events is as often as not gratified at the expense of accuracy and truth. The war correspondent's watchfulness and criticism are often valuable to the nation, but it is high time that he was made to regard his presence with a fighting force as a privilege, and not as a right entitling him to set his judgment against that of a general in the field.

Commander W. F. Caborne, C.B., R.N.R.:—We have listened to an extremely interesting paper in which the naval operations in connection with the siege of Port Arthur have been vividly placed before us in much detail. Perhaps what most strikes one with regard to those stirring events is the patriotism, devotion to duty, utter self-sacrifice, dogged perseverance, and brilliant strategy of the Japanese naval *personnel* under the command of the illustrious Admiral Togo. Many lessons may be deduced from the Russo-Japanese War, including the misuse, as opposed to the proper use, of a fortified harbour; but while the lecturer has specifically mentioned some of those lessons, he has omitted to inculcate a most important one, especially to ourselves, looking at the fact that the British Empire is not bounded by the coasts of the United Kingdom, and that is the necessity for possessing an efficient Army, capable of rapid and large expansion, and ready, in case of need, to follow up any blow that may be struck by the fleet.

Mr. Satori Kato:—I think the lecture to which we have listened was a very admirable one. Mr. Curtis has well described to us the events that happened during the deplorable war in which we have been engaged; but he seems to me to have commented rather unfairly on the discretion of the Japanese authorities with regard to the Press laws.

I doubt very much if my countrymen were wrong in doing as they did at the time of such a national crisis as ours. All Governments clearly have a right to choose and discriminate for themselves with regard to whether important news shall be given to the public at once, or as to how long it should be withheld. Probably I did not hear all he said, but I understood him to say that such laws were rather a shame. We have our troubles and we legislate for them. If I am in England I am enjoying the liberties here under the protection of the British law, and I must rule my conduct by that law, and I am not inclined to criticise it. We very much feel our defects; during the campaign we knew more of them than anybody else, but we shall repair them without disclosure. I should be taken as very unpatriotic if I disclosed everything I know about those defects. Gentlemen like Mr. Curtis have done a great deal of good for us, but sometimes they only saw the superficial part of what was going on.[1]

Colonel W. G. B. Western, C.B., *p.s.c* :—I only wish to say that I had the privilege quite recently of seeing the Japanese dockyards at Sasebo and Kobe, and the courtesy which the officials displayed to me was something which I can never forget. One of the advantages arising from my intercourse with the Japanese was that certain little personal incidents were told me which may elucidate a few of the lecturer's remarks. For instance, during one battle everybody was struck with the extraordinary motions performed by the Russian Admiral's flag-ship; she began to steer wildly and go round in a circle, and the result was that the whole of the Russian fleet seemed to get out of order. The cause of that was not due to any particular damage done to the ship, but to the fact that the quartermaster, who had just acted on an order to put the helm over, was hit, and, falling over the wheel, jammed it. Otherwise the ship was undamaged at that period, and it was simply the human element coming in: it was the man jamming the wheel, and the impossibility of getting his dead body away for some little time, that threw the whole Russian fleet into confusion. I was told another thing about that self-same battle, which one would hardly credit —but my informant was a very good one—namely, that the flag-ship went out of Port Arthur without steam up in all her boilers. That is rather interesting, because one knows how battle-ships behave under such circumstances. If the Russian flag-ship acted in such a casual way, one need not be surprised at anything that happened. The lecturer also laid great stress upon the good work done by Captain Von Essen. It was my great privilege to meet Captain Von Essen. I saw a great deal of him, and I also at the same time saw a great deal of the other Russian naval officers. They all visited Ceylon, where I happened to be quartered at the time, and it was not only my own impression, but it was also the impression of almost everybody who saw the Russian naval officers, that Captain Von Essen towered far above any of the other Russian captains in capacity and in all the other points to which the

[1] In the course of his address, Mr. Curtis suggested that a war correspondent in the future should be permitted full liberty, but that he should, if he despatched any news detrimental to the conduct of a campaign be at once shot. When the war is for life or death to a country, Mr. Curtis's suggestion seems to be *post hoc, ergo propter hoc*.—S.K.

lecturer drew attention, particularly in regard to smartness and alertness. That again shows how the personal influence of the captain of a ship has its effect in the training of the men. His officers were trained in a way in which none of the officers on any of the other ships were. Everybody who had to pay calls on the Russian ships noticed the sort of dulness that prevailed on the other ships, while on this little third-class cruiser, commanded by Captain Von Essen, there was an air of smartness and alacrity, and quite a different tone prevailed. That is where the personal element comes in.

Major-General Sir THOMAS FRASER, K.C.B., C.M.G. :—I did not intend to say anything, but as a soldier I am entirely in accord with Commander Caborne's remarks as to the necessity of having an efficient Army as well as an efficient Navy. I have the greatest admiration for Admiral Togo, whom I know personally, and for the splendid naval services that he and his officers and men have carried out, unsurpassed, as far as I know, in the history of the world; but at the same time, I think the great lesson of the war was this: that the Japanese, with supreme judgment, took into consideration all the moral as well as the material factors, and decided relatively on the strength of the naval and military forces that were necessary to success in the war. That they provided sufficient strength for the Navy has been proved by the results. Undoubtedly luck was against them in some of their losses; but in the balance their judgment with regard to the strength of their Navy proved to be correct. Their judgment with regard to the strength of the Army was less correct, because it is a fact that they had to multiply their land forces very considerably during the war itself. Without the local command of the sea their Army would have been impotent to secure victory, and the command of the sea without a sufficient Army would still have left Russia the command of East Asia. The lesson for us is this: We must not think that we can keep an Empire with a Navy alone any more than that we can keep an Empire with an Army alone. The only possibility of securing any great Continental Empire such as ours, that is united by the sea, is to have the necessary naval and the necessary military force to secure at once the command of the sea and the land. That, I think, is the great lesson we want to learn. We have oscillated about, and at one time have had relatively too much Army and too little Navy, and at another time have had too much Navy and too little Army. I do not say that we can within our needs have too much of either as long as we can pay for it; but we cannot pay for our armed forces any more than we are paying now. We have approached, if we have not reached, the limit of our expenditure, and what we now have to do is to use the wise judgment the Japanese have shown in duly dividing our financial resources between the Army and the Navy, if we want to keep the Empire that we possess. That is not apparently our present policy.

Mr. CURTIS, in reply, said :—I am very sorry to see from the remarks of one speaker, Mr. Kato, that what I said on two points was very much misunderstood. I think everyone who heard the lecture will agree with me that when I referred, for instance, to the loss of the "Yashima," and appeared to criticise the action of the Japanese Admiralty in withholding the information, I said: "This loss has not been reported, for reasons which will bear scrutiny." In view of that statement, it seems to me it is entirely a mistake to suppose that I was speaking here in criticism of the fact that the news was suppressed. I should also like to add that on that point the written lecture contains this statement:—

"The loss of these two fine battle-ships and one armoured cruiser in one day was a staggering blow to the Japanese Navy, and had the full extent of the disaster been revealed officially it is quite within the bounds of possibility that some of the subsequent actions would have taken a different course. In actual war, when affairs of supreme magnitude are being directed, there are times undoubtedly when a Commander-in-Chief, conscious of his ability to save the situation, even with sadly depleted power, is justified in keeping even his own countrymen in ignorance of the real extent of a disaster. Supposing this loss of the 'Yashima' had been publicly acknowledged, is it not certain that the knowledge of Togo's enormously reduced strength in battle-ships would have re-inspired, not only Admiral Vitgeft at Port Arthur, who at the time was busily repairing and refitting his battered ships with a view to another attempt to take the sea, but also the disheartened and discouraged authorities on the Neva?" With reference to my remarks about the Press, I do not hesitate to say that Mr. Kato has utterly misunderstood me. I have been in Japan running a journal for over fourteen years. I have been under Japanese laws and regulations for the last four or five years. I have had the pleasure—or the pain—of appearing three times before their Courts for alleged breach of Press regulations, and I am not aware that I have written a single word of unkind criticism with reference to the action of their judges. I by no means desired to appear to come here and criticise the Japanese Press laws; I should never have referred to the subject but for certain remarks recently made before this Institution by Lord Ellenborough and by several British officers, remarks which to my mind were rather misplaced and misleading. Most of them were remarks that would strike a resident in Japan with consternation, because they have nothing whatever to do with the suppression of news with reference to war operations. I contend that an efficient Army organisation has perfect means within its control for the suppression of undesirable news. I think it would be in the highest degree bad taste on my part if, after fourteen years' work as a journalist in Japan, I came here to criticise the Japanese Press laws. If my object were to criticise the Press laws of Japan, I should seek to accomplish it through the medium of my own journal. I simply said what I did on the subject by way of reply to the British officers who, a few months ago in this hall, spoke so favourably of laws which are not so perfect as they might be; and the Japanese editors, I am free to say, would support what I say on the subject.

The CHAIRMAN (Admiral the Hon. Sir E. R. Fremantle, G.C.B., C.M.G., Rear-Admiral of the United Kingdom):—The pleasant duty now devolves upon me of proposing a vote of thanks to the lecturer. I have not had the pleasure of hearing the lecture, and I feel that is my loss; but I hope to have the opportunity of reading it afterwards. I did see, however, some of the lantern slides, and I know how interesting they were to everybody. I should like, in proposing this vote of thanks, to make one or two remarks of a general nature, because I have been able to only skim some of the remarks made by the lecturer. I quite agree with what was said by Colonel Western with regard to the personal element, and about the difference between the various Russian ships. I have seen a good many of them; I have been close alongside several of them; I have been all over a great many of them, and I have known a great many Russian naval officers. The great majority of the ships I

always thought were decidedly indifferent; but I have come across some which appeared to me to be in splendid order, and I believe that with the intelligence and the knowledge which the captains evidently possessed, those ships would have been well fought. But they were decidedly the exception. Some years ago I went on board a Russian armoured frigate carrying an admiral, which was lying alongside me for some time. The captain of the vessel was shot by his servant not very long ago at St. Petersburg. Some of you may recollect his name, Vice-Admiral Nazimoff. The Admiral was on board my ship several times, and I showed him everything. He then said to me: "Perhaps you would like to see my ship." I replied that I should. I saw the captain was a little reluctant to show me over, and I did not wonder at it, because when I went round the ship I found that the state of cleanliness did not exist. I was particularly struck with the stolidity of some of the bluejackets who were sweeping up dirt, and who did not seem particularly to mind my seeing it. I have seen a little dirt sometimes on board our ships, I am afraid, and I have seen a bluejacket putting it out of sight; he generally stood in front of it and tried to hide it, knowing it was not the right thing. They try to keep it out of sight when any superior officer is looking round the ship. During the war between China and Japan I was in command of the British fleet in China, and I saw a great deal of the movements of the Japanese and a certain amount of the movements of the Chinese, for they did not move very much, and I was particularly struck with the admirable arrangements that were made by the Japanese. For instance, there was a fairly strong remnant of the Chinese fleet lying in Wei-Hai-Wei when the place was being attacked. The Japanese mostly lay in Ying-Shing Bay, which is just to the south-east of the Shan-tung Peninsula. They sent out a squadron every day, which was relieved by another squadron every evening, to blockade outside, and meanwhile they husbanded their resources. I also saw the splendid way in which the torpedo-boats attacked. I was very much astounded at the proficiency which had been reached by the Japanese, who, it must be remembered, had seldom acted in large squadrons before, and who might have been supposed to have been a little "green" with regard to the ordinary evolutions by squadrons. They signalled by the electric light at the mast-head, and had apparently managed to make all their arrangements very complete by not having more messages than were requisite. At the end of the war perhaps you will recollect there were three Powers which united to turn the Japanese out of Port Arthur, and it was expected that there might be fighting between the Russians and the Japanese. I knew the Russian Admiral very well. His squadron was decidedly stronger than the Japanese, and I should have thought that he would have gone into action, not exactly with a light heart, because that would not be the right principle, but with some degree of confidence, and I was very much struck, on having a little chat with him, to find that he was not confident of anything at all. He felt, in fact, decidedly anxious about it in case war should take place. I was very much astounded at that, and it showed me that the Russians at that time had very little confidence in themselves, that they were not very good sailors, and that they really did not know exactly how to handle their ships. I do not say that that may not have been exceptional, but that undoubtedly was the case. There was a lack of confidence and a lack of knowledge apparently amongst the Russians at which I was rather surprised, having seen some of their ships at all events in very good order. I make exceptions, as

Colonel Western did; but taking them altogether, there was a lack of that general efficiency which you would naturally have expected in a squadron that had been at sea a considerable time. You must also remember that the best part of the Russian fleet, in every possible way, certainly as regards efficiency, was in the Far East—what they call the Pacific Squadron. Then I should like to say one or two words about correspondents. I was just in time to hear a little of what the lecturer had to say on that point. I am afraid I am one of those naval officers who have a very small opinion of them, because I should not like many correspondents about on my ships; but I certainly should like to be able to censor their messages in every possible way if we had them. I cannot help thinking it is wiser to do as the Japanese did, namely, not to let correspondents know too much, because there is no knowing whether, even with the best intentions, even if they were perfectly loyal, and even if they thought they were giving no information to the enemy, some little information might not drop out; some little remark might be made which would be of advantage to the enemy. We know very well that even the smallest information may sometimes, to a practised hand, give information which is of the greatest value, and which may lead him to draw his proper conclusions. There is one other thing to which I should like to allude, and that is the great advantage you possess when you are able to get information. I believe the Japanese were exceedingly good at that. If I may venture to say so in the presence of the Japanese gentleman here, they are naturally a very inquisitive race; they carry that instinct into warfare with them. They take time by the forelock, that is to say, in peace time they get every information they can. They take a note of everything, and they give that information to their superiors. We in this country are rather apt to be easy-going in these respects. We do not always look about us as much as we might, and occasionally, I daresay, we give information which we ought not to give. I confess to a certain feeling that way myself. I am not inclined to be over-reticent, and sometimes we may say things that might be made use of. I think in that way we may take a lesson from the Japanese. I can only repeat my regret that I was not here at the beginning of the lecture. I wanted particularly to hear this lecture, because I wanted to hear what the lecturer had to say about the manœuvres which took place outside Port Arthur, and the management of the fleet generally; but, speaking from the information which is in one's possession, and from what one has heard and read in the papers, and what one knows generally of the conduct of the war, I can only say that I have the highest admiration for the way in which Admiral Togo managed his fleet; not only for the way in which he fought his fleet in the actions which took place, but for the way in which he husbanded his fleet. That is a very important point, and that shows the sailor. I remember taking part in a blockade a good many years ago with a foreign Power—the Germans—and at that time at all events I do not think the Germans knew exactly how to husband their fleet; that is to say, they tried to do impossibilities. They were very zealous, very hard working, very energetic, but they did not know exactly what their ships could do, and after a time my friend, the German admiral, found that his ships all required laying up, and that the officers and men were decidedly dissatisfied. I am happy to say that perhaps I did not try to do quite so much, and the officers and men under my command did not have a particularly easy time of it, but I am very pleased to think that although the blockade lasted ten months, so far as I can recollect—

memory is a little treacherous in these matters—none of our ships broke down, that is certain, and none of our ships were laid up, nor, so far as I know, was there any dissatisfaction among the officers and men under my orders. I only quote that as proving that you must know the customs of the sea—the secrets of the sea. It is no use having a lot of ships, manned by a lot of courageous men, if they are not sailors who do not understand exactly how they ought to be handled or what they are capable of. It now only remains for me to give, on your behalf, a vote of thanks to Mr. Curtis for his admirable lecture, and to repeat my apology to him for not having been here earlier.

A GERMAN COLONIAL CAMPAIGN.

The Operations against the Bondelszwarts and Hereros from the Beginning of October, 1903, to 31st July, 1905.

Compiled by the 2nd Bureau of the French General Staff.

Translated, by permission of the French Minister of War, from the *Revue Militaire des Armées Etrangères.*

SINCE the latter part of the year 1903 the German Empire has been faced in its South-West African possessions with a very difficult task, in the suppression of the rising among the native population, a task which is not even yet by any means completely accomplished. The rising had its commencement originally in the southern portion of the Colony, and did not at first attract very much attention; but it rapidly extended to the region where the Germans had been expending their greatest efforts in the economic development of the country, with the result that in a few months the work of nearly twenty years' of strenuous effort was destroyed.

The first reinforcements sent out from Europe were powerless to make any impression on the revolt; to-day the sacrifices in men and money, which are being expended in stamping it out, have become very considerable, and the question is being discussed with some uneasiness in Germany, whether they are not in excess of the whole value of the Colony.

* * *

German South-West Africa covers a surface of 835,000 sq. km. (374,000 square miles)—more than one and a half times the size of the German Empire—and extends from the Portuguese Colony of Angola on the north, to the border of Cape Colony on the south; in the interior the Colony is bounded on the east by the English territories of Rhodesia and Bechuanaland. The coast-line, which is low and with scarcely any indentations, stretches nearly 1,500 km. (937½ miles) between the mouth of the Cunene and that of the Orange River, and offers no shelter against the sea and wind, except in the two roadsteads of Swakopmund and Lüderitz Bay, neither of which afford either good or secure anchorage; the only good harbour on the coast being Wallfish Bay, lying a few miles to the south of Swakopmund, which belongs to Great Britain, and gives access to the two principal rivers of that region—the Swakop and the Kuiseb.

Some ranges of downs abut on this inhospitable shore, which become more defined inland, forming a series of terraces rising step by step to a region of high plateaux, some 500 km. (312½ miles) in width, bordered on the east by the Kalahari depression. This region of high plateaux, of which the axis parallel to the coast traverses the whole Colony from north to south, is the most healthy, the least barren, and the most populous part of the country. Nature seems to have protected the approaches to these uplands; the zone of from 75 km. (47 miles) to 150 km. (94 miles) which separates them from the sea is both sterile and waterless, and the only practicable roads giving access to them, where it is possible to depend on finding water, are those valleys and water-courses which convey the water during the rainy season from the mountains of the interior to the ocean.

In the northern portion of the Colony, the height of the plateaux does not exceed some 3,000 feet. The level country, remarkably flat and even, fertilised by the annual inundations of the Cunene, luxuriates in the rich vegetation of tropical countries. It is inhabited by an industrious and agricultural population, the Ovambos, of Bantu origin, who live in complete independence on both sides of the frontier.

To the south of the 20th degree of latitude, the country becomes mountainous, rising in steep walls between the 21st and 23rd degrees. The highest peak, Omatako, has an altitude of nearly 7,000 feet. The uplands generally reach a height of from 3,600 to 4,800 feet. It is the highest and most rugged portion of German South-West Africa, and it is also the most covered with vegetation. The rains which fall here from December to April keep the atmosphere sufficiently humid to permit the development of a brushwood, which grows often to some height, and is close set; grass also grows in abundance.

The pasturages of this region have attracted to them the Hereros, a conquering race of shepherds, who came from the north towards the end of the 18th century, and, like the Ovambos, are of Bantu origin.

To the south of the 23rd degree, the aridity increases and the appearance of the country changes; rocky and bare mountains, real fortresses, alternate with large sandy plateaux; the brushwood gives place to the desert. Inhabitants are scarce in a country where there is a lack of water and cultivatable soil; such as there are belong to different branches of the Hottentot family, and grouped in the least arid of these desolate wastes they eke out a miserable existence by means of their poor flocks.

On the high plateaux in the centre and south of the Colony there are great variations of temperature; during the day it is sweltering, while the nights are very cool. This coolness of the nights, conjoined with the purity of the air, allow Europeans to keep in good health.

It is chiefly the central territories which have attracted colonisation, on account of their close proximity to the best road for penetrating the country, traced out by the valley of the Swakop. The Hereros accordingly have found themselves more immediately in touch with officials, colonists, and traders; warlike and independent, they were the first to give the signal of revolt. It has been estimated that 6,000, out of a population of 60,000 to 80,000 souls, was the number of men available to take the field. Armed with breech-loading rifles of the

Mauser (1871) type or of English manufacture,[1] disposing of large supplies of ammunition, skilful shots with a thorough knowledge of a country marvellously suited to guerilla warfare, encouraged by the weakness of the troops stationed in the Colony, they believed themselves strong enough to drive out the Germans and regain the mastery of their homes.

It can be safely asserted that the mishaps which have occurred during the campaign were less the results of the race qualities and good armament of the rebels than the difficulties experienced in organising, disembarking, transporting, and revictualling the reinforcements successively forwarded.

The port of Swakopmund, the railway, finished in 1902, between Swakopmund and Windhoek — a distance of 382 km. (237 miles) — with the line of optical communication established between Karibib and Outjo, on the one hand, and Windhoek and Keetmanshoop, on the other, were each called upon to play an important part in the campaign which was to open.

Unfortunately the deficiencies of the port of Swakopmund[2] and the feeble capacity of the railway[3] had a very sensible influence on the course of operations, and led to very regrettable delays.

* * *

Up to 1896 a succession of revolts, causing a good deal of bloodshed, had delayed every attempt at organisation. Nevertheless, successive Governors had succeeded by playing off the Hereros against the Hottentots, and *vice versâ*, in avoiding a general rising. Colonel Leutwein, in particular, who was sent out in the beginning of 1894 by Chancellor Caprivi, with very moderate means at his disposal, succeeded in repressing the revolt of the Witboïs, and by measures of clemency turned them into allies, who gave their assistance in suppressing the risings of both the Hottentots and Hereros.

From 1897 an era of tranquillity seemed to have opened for the Colony, and those who believed that the pacification of a country ought to be brought about by a humane policy rather than by the extirpation of the aboriginal inhabitants, naturally applauded the success of a Governor who took the pains to treat the natives with kindness and goodwill. One may ask, on the other hand, if the weakness of the forces at the disposal of Colonel Leutwein left him any choice as to his method of procedure, and if it was possible for him to rule by force alone, turbulent, brave, and powerful races.

---

[1] Up to 1888 there was no restriction on the trade in fire-arms; but in January of that year the sale was put under the control of the Governor. From that time on the Government has reserved to itself the monopoly of the sale of arms and ammunition, but it has been unable to put a complete stop to contraband traffic over the English and Portuguese frontiers.

[2] The pier at Swakopmund, finished in 1903, was constructed to receive from 200 to 300 tons a day; but the steamers could not get alongside it, so it was necessary to transport everything from the ships to shore by means of tugs and barges.

[3] Another line of railway connecting the Otavi copper mines with Swakopmund (570 km. = 360 miles) had been taken in hand at the moment when the insurrection broke out. Its construction has been continued during the war by financial help from the German Government.

However that may be, the success obtained during ten years of administration seems to have lulled the high officials of the Colony into a state of false security, and to have led them to ignore certain premonitory signs of an approaching rising—such as a manifest state of general discontent, meetings of the chiefs, a refusal to work on the part of the natives—to which towards the end of 1893 their attention was drawn by missionaries and the farmers who were in more immediate contact with the natives than the officials were. This optimism still continued even when, in October, 1903, a revolt broke out among the Bondelszwarts, a tribe of Hottentots inhabitating the extreme southern portion of the Colony; it was believed to be merely a local disturbance which would be quickly and easily put down.

The effective of the detached troops in the Colony amounted at that time to four companies belonging to the Protectorate Forces, and were distributed as follows:—The Headquarters Staff, with the 1st Company, at Windhoek; the 2nd at Omaruru; the 3rd at Keetmanshoop; the 4th at Outjo; a mountain battery quartered at Windhoek; and some hundreds of native pclice. The total strength of the Protectorate Forces amounted to 44 officers and 692 non-commissioned officers and men.

Some of the insurgents advanced on Warmbad, whilst others organised themselves in the Kara Hills. Captain von Koppy, who commanded the company at Keetmanshoop, which was the nearest to the theatre of revolt, marched as soon as possible on the rebels who were besieging Warmbad, compelled them to fall back on Sandfontein, where on the 24th November he completely defeated them. On the other hand, the commander of the district, Captain von Burgsdorff, at the head of a force of Witbois, had dispersed by the 10th December the bands assembled among the Kara hills.

Not knowing how the rising might have developed, Colonel Leutwein sent south in November the 1st Company (von Fiedler) and the mountain battery, following them up at the beginning of December by the 2nd Company (Franke). There remained then in the north and in the central part of the Colony, at Outjo, only the 4th Company (Kliefoth), whose posts were dispersed over a territory of 150,000 square km. (60,000 square miles). Captain von Fiedler found the insurrection suppressed, and was able on the 27th December to conclude an armistice with John Christian, the Chief of the Bondelszwarts.

Suddenly the Governor, who had also proceeded to the south in order to judge the situation for himself on the spot, learnt that the Hereros, taking advantage of the weakness of the force left in their territories, had risen *en masse* on the 12th January, had attacked isolated farms, murdered their inhabitants, plundered the buildings and the crops, carried off the flocks and the arms, and cut the railway and the telegraph above and below Okahandja; it was a bolt out of the blue.

Fortunately, the Deputy-Governor, who had at last become alarmed at the threatening signs, had taken the precaution, some days before the massacres, to call out, as a matter of urgency, all Germans capable of bearing arms. The greater number—about 500—were able to get in time to their places of assembly and reinforce the weak garrisons they found there. The principal localities were very soon closely pressed by the insurgents.

A detachment under the orders of Lieutenant Boysen, detached from Windhoek for the relief of Okahandja, which was more par-

ticularly threatened, was cut to pieces on the 13th January. More fortunate, Lieutenant von Zülow, starting from Swakopmund, succeeded in reaching the place on the 15th January with a hundred reservists, and organised the defence.

At the first signs of the insurrection an order was sent to the gun-boat "Habicht," then cruising in Cape waters, to return immediately to Swakopmund, and at the same time to Captain Franke, with the 2nd Company, also to return north. On the 18th January a detachment of 3 officers and 81 men, with 5 machine guns, under the orders of Captain-Lieutenant Gygas, was disembarked from the "Habicht" and forwarded immediately by rail to Karibib, with orders to protect the road between that place and Okahandja. In the meantime the Company Franke, which had returned by forced marches[1] from Gibeon to Windhoek, relieved in succession, after a series of actions, Windhoek (19th January), Okahandja (27th January), and Omaruru (4th February). Nevertheless, in spite of all the activity displayed, the communications with the 4th Company, whose captain had been wounded on the 29th January in some fighting to the south of Outjo, remained interrupted, whilst the lieutenant in charge of the police district of Grootfontein was sharply attacked on the 18th of the same month at Otjirukaku; Gobabis was besieged, while some parties of Hereros, assembled in the Komas hills to the east of Otjimbinque, again menaced the railway. The arrival of reinforcements was urgently demanded.

The reliefs—226 officers and men—for the Protectorate troops were then *en route* to Swakopmund, which place they reached on the 3rd February; they served naturally as a reinforcement, and were sent on, as soon as they disembarked, to Windhoek.

In the mother country, steps were being taken to send out as soon as possible the units immediately available. On the 17th January the order was given for two battalions of Marine Infantry at Kiel and Wilhelmshaven to mobilise a battalion of four companies of 125 men each. Then, in default of a body of troops specially formed and organised in view of the defence of the Colonies, a call was made for Volunteers, in order to form from all branches fighting units which could be got ready for embarkation without delay. These Volunteers were selected with particular care. Only trained men of first-rate character and strong constitutions, with really good eyesight, and not weighing more than 70 kg. (11 stone) were accepted. The way the Hereros were armed, their military aptitude, and the mountainous nature of the country rendered the action of infantry alone of any good; but, on the other hand, the mobility of the enemy and the heat of the days in South-West Africa made it necessary to mount as far as possible the troops called on to fight. The Volunteers, provided with proper tropical khaki clothing, were armed as infantry, but were also supplied with cavalry equipments, and each man was also provided with two blankets, which were to be carried with the camp equipage in the water-proof cases on the wagons. No precautions rendered necessary by the climate and nature of the country were neglected; but the error was committed of waiting until their arrival on the scene of action before these elements, drawn from different

[1] Between the 30th December, 1903, and the 19th January, 1904, the Company Franke, which was mounted, covered 720 km. (450 miles) in 18 days; the last 300 km. (185 miles) in four days and a half.

branches of the Service, placed from the beginning under the orders of leaders devoid, for the most part, of any tropical experience, were organised or received their horses and equipments—were made, in fact, into proper fighting units. The horses, mules, and oxen for transport purposes, intended for their use, bought at the Cape or in the Argentine Republic,[1] were to be sent direct to South-West Africa. Events showed the inconveniences of this method of procedure.

The departure of the first reinforcements was effected with a commendable promptitude; the "Darmstadt," of the Lloyd Company, was able to sail on the 21st January, having on board, in addition to the Marine Expeditionary Corps, under the orders of Major von Glasenapp (4 Marine companies, 8 machine guns, a hospital company, and commissariat company), 60 men of the Railway troops, a detachment of seamen for the "Habicht," and Major von Estorff, who knew the Colony well. These reinforcements reached Swakopmund on the 9th February.

Up to then it had been necessary to maintain a strict defensive; it now at last became possible to march from Karibib by Omaruru to the relief of the Company Kliefoth, and clear the insurgents out of the Gobabis region.

In the order of urgency, Major von Glasenapp wished first to pacify the country to the north and south of the railway, considering that before engaging in the pursuit of the Hereros through the vast territories to the east of Windhoek, it was better to wait the arrival of the first convoy of horses announced for some time in March. He resolved, consequently, to move with three companies on Omaruru and more to the north, whilst the 4th Company and the detachment landed from the "Habicht" operated in the region of Otjimbinque. Major von Estorff, who had arrived by rail on the 11th at Karibib, commenced on the 12th the movement on Omaruru with the 3rd Company and two machine guns, when Major Glasenapp, who was getting ready to follow him, received orders to proceed to Okahandja; Colonel Leutwein, who had signed on the 27th January a treaty of peace[2] with the Bondelszwarts, having returned to Swakopmund by Port Nolloth and taken over the direction of operations.

He organised three detachments: the first, called the Western, formed by the 3rd Company of Marines and the 2nd of the Protectorate troops (Franke), under the command of Major von Estorff, was directed to restore communications with the 4th Company of the Protectorate troops (Kliefoth); a second detachment, called the Eastern, under the orders of Major von Glasenapp, comprising the Company (Winkler) —the reliefs for the Protectorate troops, already on the march since the 10th from Windhoek on Gobabis, and the 1st and 4th Marine Companies, received orders to drive the insurgents from the Gobabis district and prevent their taking refuge in English territory. The 2nd Marine Company was sent to Okahandja, in order to form the nucleus of a detachment called the "Principal." The landing company from the "Habicht" and the railway troops remained charged with

[1] These purchases amounted during the first quarter of 1904 to 647 horses and 733 mules in Argentina, and to 1,310 horses and 420 mules at the Cape.

[2] The conditions were as follows:—1. To lay down their arms and the surrender of all ammunition and stolen property. 2. The surrender to the Crown of part of their territory.

the sole duty of maintaining order in the territories comprised between Karibib, Okahandja, and the Komas hills.

In the execution of the orders of Colonel Leutwein, the 1st and 4th Companies of Marines quitted Windhoek successively by two different routes on the 14th and 17th February; but owing to the impracticability of the route which the 4th Company was to have traversed, both companies reunited on the 19th, and the detachment, comprising two companies (not mounted), 5 machine guns, and 38 horsemen, moved in one column on Gobabis. The insurgents who were besieging that place did not wait but retreated towards the north. A combined movement between Major von Glasenapp and Lieutenant von Winkler, in order to surprise them at Kehoro, where they had been reported, came to nothing (25th March), in spite of the rapidity of the march of Glasenapp's detachment, which covered 98 km. (61 miles) in 42 hours. The Hereros had disappeared. Not being tied to any line of communication, having only one single care, that of finding water daily, they could move as pleased them, north, south, or west. "In this rough and wooded country," writes General von Francois,[1] "the movement of a column can be compared to that of a ship in a very heavy sea. As soon as the ship has passed, the waves close in on her again." Major von Glasenapp, who had reached the Ovingi region, Epakiro, Kanduwe, halted his troops and let them rest some days while awaiting information. He himself went scouting with 13 officers and 68 mounted men, of whom 8 were natives, towards Otjinene, in the valley of the Eiseb.

In the west, Major von Estorff, having left Karibib on the 12th February with the 3rd Marine Company and two machine guns, effected his junction on the 16th February at Omaruru with the Company Franke, and on the 21st, at Okawakuajiwi, with the Company Kliefoth, until then isolated at Outjo. Then, learning that some important bodies of the enemy were assembled in the neighbourhood of Otjihinamaparero, he moved towards them on the 24th with all his mounted men (some 120 officers and men), 3 field guns, and 1 mountain and 1 machine gun.

But the Hereros, some thousand strong, offered a very stubborn resistance, and it was only after ten hours' fighting that they gave way, leaving in the hands of the victors some 2,000 head of cattle. On the 28th the "Detachment of the West" returned to Omaruru, where they remained until the 10th March, many of the men being much in need of new foot-gear, clothing, and equipment, which had all suffered badly.

To the south of the railway from Karibib to Okahandja some indecisive fighting had taken place at Lievenberg on the 16th February, and at Gross-Barmen, the 19th, between the Company Gygas and some bands of insurgents assembled in the Komas hills. These were defeated on the 4th March at Klein-Barmen, thanks to the reinforcements brought by the 2nd Marine Company sent from Okahandja and by the 5th Company of the Protectorate troops, formed by the first *échelon* of the first contingent of Volunteers, who had been disembarked on the 24th February; but the insurgents could not be dispersed, and they remained masters of the hilly strongholds, where they had collected.

On the 1st March the second *échelon* of the first contingent of Volunteers (6th Company) arrived in the Colony, as well as Colonel

[1] *Militär-Wochenblatt*, No. 33, 17th March, 1904.

Dürr, Chief of the Marine Expeditionary Corps, and 60 men of the railway troops.

On the 9th March the 1st Company of the Protectorate troops and the mountain battery returned to Windhoek from the south, where now only remained one company (the 3rd—von Koppy).

On the 10th March, Colonel Leutwein had at his disposal on the Okahandja-Windhoek line a mountain battery and four companies (the 2nd Marine and the 1st, 5th, and 6th of the Protectorate troops). But these two last units were far from being ready to take part in operations which might take a long time; their horses had not yet arrived, their *matériel* was incomplete, and above all, they suffered from the want of cohesion, which is characteristic of improvised units. It is true, invested places had been relieved, and the railway was open, but the important point was that the Hereros still kept the field. Considering that 2,500 men, of which he could dispose, including reservists and landwehr,[1] were not sufficient to enable him to undertake a real active pursuit, Colonel Leutwein made a fresh demand on the home authorities for the despatch of further reinforcements, including 800 mounted men and two batteries. These were freely granted him. In spite of the opposition of the Socialists, the Reichstag voted a sum of six millions of marks in addition to the sum of 2,821,000 marks already granted, and preparations were made towards the end of March and the first days of April for the embarkation of 45 officers, 1,100 men, 1,200 horses, 12 guns, and 12 ammunition wagons, with 10 doctors, 15 commissariat officials, and 62 hospital nurses and bakers.

If the bad news received from the Colony on the 19th March was not of a nature to calm public opinion at home, it at least showed the urgent necessity of these reinforcements.

* * *

In the course of his reconnaissance towards Otjinene, Major von Glasenapp had found no trace which would serve as an indication of any movement of the Hereros towards Bechuanaland. Certain reports having led him to believe, on the contrary, that the insurgent bands had turned again towards the west, he resumed on the 6th March his march in that direction; he hoped, moreover, to have reached by the 15th March the sources of the Eiseb and Black Nossob, and to be able to co-operate from there in the detached operations which Colonel Leutwein had assigned to him as his duty towards that date.

On the 12th March Major von Glasenapp, who was with the right column, reached Onjatu and gave orders to halt there to await the arrival of the second column, which had taken a somewhat longer route. It gave the troops three or four days' rest, and their leader wished to profit, as he had previously done at the end of February, by pushing a personal reconnaissance with his mounted men, in order to see if the Hereros were on the Waterberg or if they were still infesting the region to the west of Okahandja. He quitted Onjatu on the morning of the 13th with all his disposable mounted men of the right column—11 officers and 55 men, a machine gun, and an ox wagon escorted by 7 men on foot, carrying provisions, ammunition, and medical stores.

On the evening of the same day, drawn into an ambuscade at Owikokorero, in the middle of a thick brushwood, he lost in less than

[1] Colonial reservists and landwehr to the number of 400 to 500, who kept garrison in the principal localities.

half an hour three-quarters of his effectives, and it was not till night that he succeeded with great difficulty in rallying the bulk of his detachment with only 1 officer and 13 sound men, bringing back 3 officers and 3 men wounded, and leaving 7 officers, 19 men, and a machine gun on the ground. It was a disaster, but it must be remembered that a similar reconnaissance on the Eiseb, with forces which were not sensibly superior, had been successfully carried out; that for three weeks the Germans had pursued the Hereros without once being able to get touch with them, and that at Owikokorero it was believed the enemy was in full retreat.

Major von Glasenapp, after having taken in his camp at Onjatu all the necessary precautions in case of an attack, awaited there his left column, which rejoined him on the 15th. A few days later he received from Colonel Leutwein supplies and some officers to fill vacancies. He was also informed that the "Principal Detachment" would not be ready to move before the 1st April. The organisation of this "Principal Detachment" had proved a work of great labour. The first convoy of horses or mules purchased in Argentina in order to mount the Volunteers and horse the Artillery arrived in due course on the 10th March, in the roadstead of Swakopmund,[1] but the difficulties of disembarkation[2] had not been sufficiently taken into account, or the slowness of transport along an insufficient line of delivery.[3] Then, when it was a question of harnessing or mounting the newly-received animals, it was found that they were half-savage, and had to be broken in. "The difficulty of organising the new units," wrote Colonel Leutwein, "under the existing conditions, must be taken into account. A number X of men drawn from all arms, and a number Y of horses not broken in to the saddle or for draught, do not suffice to constitute a company, and *a fortiori* a battery ready to go on service. The infantry cannot ride, the cavalry have had to practise their marksmanship, and it is only with difficulty that we have been able to procure the necessary equipment and saddlery, etc." This want of homogeneity completed the difficulties arising from the diversity in the nature of the guns at disposal, consisting of machine-guns of different systems, mountain-guns and field-guns of the 1873 model.[4] Lastly, two senior officers of the same rank, exercising their authority alongside each other; the one, Colonel Dürr, Chief of the Marine Expeditionary Corps; the other, the Commandant of the Protectorate troops and Governor of the Colony.

In brief, Colonel Leutwein, who counted on being ready by the 1st April, was compelled to delay his departure until the 7th of that month. At that date he had assembled at Okahandja:—

> The Estorff detachment recalled from the Omaruru region, consisting of the 2nd and 4th Companies of the Protectorate troops, and 1st Company of Marines;

---

[1] The second instalment only arrived on the 5th April.

[2] The disembarking of the horses took 6 days.

[3] In February, 1904, the daily output of the line did not exceed from 250 to 300 hundredweight, transported in 5 or 6 trucks. In some parts of the line the locomotives could only draw one truck. In March the railway could scarcely provide for the needs of the troops. The carriage of private goods was suspended on the 19th March.

[4] The field guns of the 1896 model did not arrive until later.

The 2nd Company of Marines, and the 5th and 6th Volunteer Companies;

The 1st Company of the Protectorate troops, three batteries, and a detachment of field-guns.

Numerous reports had informed him that, as the result of the previous fighting, the Hereros, to the number of from 3,000 to 4,000, were grouped in the Onjati Hills, and occupied the environs of Ouganjira. He decided to move against them, in a single column, with the "Principal Detachment," whilst Major von Glasenapp attacked them starting from Onjatu.

This line of proceeding, imposed upon him without doubt by circumstances, could only give *a priori* very limited results; because it could not force a decisive battle on an enemy always ready to vanish as soon as they believed further resistance at the moment was useless, while it left them every facility for getting their cattle, their only means of subsistence, away as they pleased by the number of roads which remained open; it thus provided no possibility of making a success, and inflicting on the Hereros an irreparable blow. Moreover, the two assaulting columns were separated from each other by 80 km. (50 miles) of brushwood, so any *contre-temps* might prevent the co-operation being effected under such conditions. And this is just what happened.

"The communications were uncertain, often even interrupted between Okahandja and Onjatu. Conformably to instructions received, Major von Glasenapp began his movement on the 1st April without having been informed that Colonel Leutwein had deferred his own for seven days in order to complete the organisation of his troops. On 3rd April, Major von Glasenapp was, while on the march, attacked by surprise at Okaharui."[1] Allowing the mounted part of the detachment to pass on, the Hereros attacked the centre and rear-guard of the column, which was entangled in a thick brushwood and strung out to a considerable length.[2] It was only able to repulse the enemy after suffering considerable loss, and was obliged to fall back on Onjatu, where it bivouacked, in diminished strength, harassed and incapable of retaking the offensive. Decimated by typhus, it abandoned Onjatu on the 21st April, in order to rest at Otjihaënena, on the banks of the White Nossob, from whence a message was sent to Windhoek for medical aid and necessary supplies. Since the 13th March, the column had lost 14 officers out of 22—a rate of 63 per cent.—of whom 8 were killed, 4 wounded, and 2 invalided; 188 men out of 476—39 per cent.—of whom 56 were killed, 18 wounded, 62 invalided, 8 dead from various diseases, and 44 ill with typhus; the new camp was, in fact, transformed into a hospital.

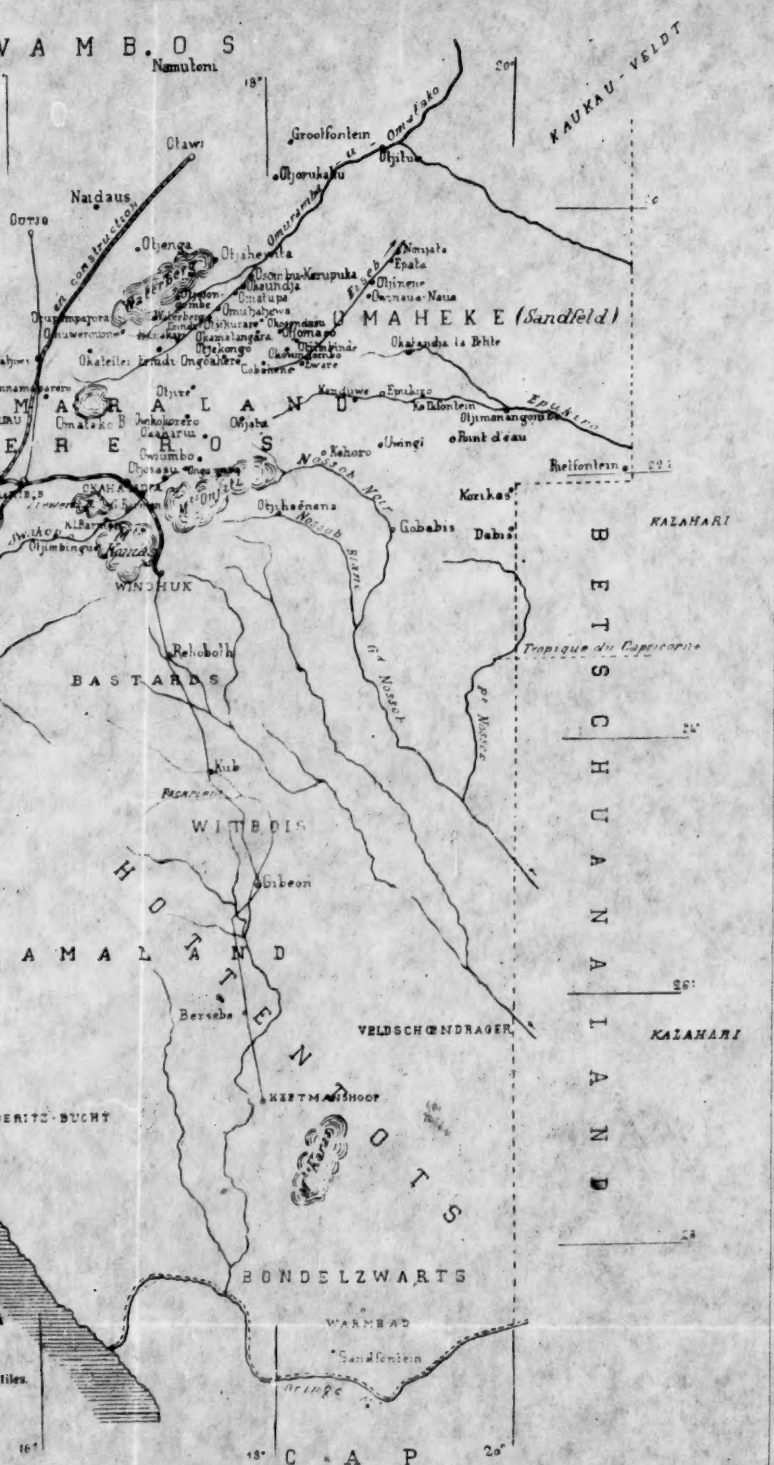
Whilst this lamentable odyssey of the Glasenapp column was taking place, the "Principal Detachment," under the personal command of Colonel Leutwein, was scarcely more fortunate. On 7th April, Leutwein, who had then completed his preparations, left Okahandja with 7 companies, 2 field batteries, a mountain battery, a machine-gun detachment and 50 Witboïs or Bastards.[3] In spite of

[1] Memo. on the Revolt in German South-West Africa, published by the Great General Staff.

[2] The wagons carrying the various stores, drawn by 20 oxen, alone formed a column 2·5 km. (1·56 miles) long.

[3] 1,272 men, 600 horses, 400 mules, 980 draught animals, 450 animals for slaughter, 49 wagons, each drawn by 20 oxen and carrying 4 weeks' provisions.

J. J. K. & Co., Limited, London.


V A M B. O S
Namuteni
Otawi
Grootfontein
Otjituo
Otjorukaku
Omuramba ua Eako
Omaheke
KAUKAU-VELDT
Natdaus
Outjo
Otjenga
Otjahenena
Epata
Otjirene
Omaheke (Sandfeld)
Okahandja la Bhite
Otjize
Kanduwe
Epukiro
Rietfontein
Otjimanangombe
Epukiro
M A R A L A N D
E R E R O S
Okahandja
Kehoro
Uwingi
Rhenish Mission Station
Rietfontein
Karikas
Otjohenena
Nosob River
Gobabis
Dabis
KALAHARI
WINDHUK
Rehoboth
Tropique du Capricorne
BASTARDS
Nosob River
Nosob River
Kuis
WITBOIS
H O T T E N T O T S
Gibeon
A M A L A N D
Bersebe
VELDSCHOENDRAGER
KALAHARI
KEETMANSHOOP
B E T S C H U A N A L A N D
BONDELZWARTS
WARMBAD
Sandfontein
Orange R.
C A P

the difficulty of the water supply for so large a force, kept in one column, Colonel Leutwein preferred not to divide his forces, in order to make certain of being able to co-operate the same day, in the movement he intended to attempt against the important bodies of the enemy occupying the region to the north of the Onjati mountains. On the 9th he came into touch with the Hereros, who were reported to the number of about 3,000 at the west entrance to the Onganjira defile. Their line of defence, reaching from 5 to 6 km. ($3\frac{1}{8}$ to $3\frac{3}{4}$ miles) described a semi-circle of which the concave faced towards the west, the direction from which the Germans were advancing. Neglecting a part of their front, Colonel Leutwein attacked their left wing with the whole of his forces, it being the easiest to get at when coming from Otjosasu. Inspirited by the success reported from Owikokorero, the Hereros made an energetic resistance, making in their turn vigorous counter-attacks upon the left wing of their assailants. Finally, after nine hours' struggle, their left wing and then their centre were broken, and they dispersed in all directions, leaving only a few cattle in the hands of the victors.

On the 13th, when Colonel Leutwein had ascertained the direction taken by the greater part of the fugitives, he moved in pursuit with the bulk of his forces, in the direction of Oviumbo, leaving, under a good escort, his convoy at Otjosasu. Surprised by the enemy some hours later, when marching through the brushwood, he was only able to free himself after 10 hours' fighting. "Short of ammunition, and unable to procure more, and finding the greatest difficulty in feeding his column, he had to fall back in the night on Otjosasu. The two last actions had clearly shown that he had to deal with a skilful and well-armed enemy. He became convinced that he had not sufficient forces at his disposal to effect anything decisive."[1]

In consequence of the demand made by Colonel Leutwein at the beginning of March, there were embarked on the 25th and 30th March, the 7th and 16th April, a second contingent of Volunteers under the command of Majors von der Heyde and von Mühlenfels, 3 batteries and the necessary *personnel* and *matériel* of the different services (medical, commissariat, railway, and wireless telegraphy). "It was feared," said the Memo. of the Great General Staff, "that these reinforcements would scarcely be sufficient to make up for the losses already sustained by fighting and disease, as fever and typhus were making havoc among the troops."

A number of people in authority in Germany had been from the first opposed to the policy of sending out troops in driblets; but being afraid of exciting public opinion, and of rousing ill-will in the Reichstag, attempts were made to send out by degrees all that Colonel Leutwein asked for.

The complete check in the last military operations, the duality of command that roused suspicion as to the sudden return of Colonel Dürr for "reasons of health," made people at last understand the necessity for adopting more energetic measures, and for constituting an Expeditionary Corps under the command of a man whose rank would assure him indisputable authority.

(To be continued.)

---

[1] Memo. on the Revolt in German South-West Africa, published by the Great General Staff.

PRIMARY CONDITIONS FOR THE SUCCESS OF CAVALRY IN THE NEXT EUROPEAN WAR.

Lecture given before the Berlin Military Society by Lieut.-General von PELET-NARBONNE.

Translated by permission.

IF we would solve the question of the primary conditions necessary to ensure success for cavalry in a future European war, it is first of all imperative to find out what are the defects of this arm upon which are based the causes of the unsatisfactory results obtained in the different campaigns since the year 1813; what, on the other hand, are the improvements that have been made in organisation and training; and what methods of employment have led to success—in order then to form an estimate—aided by the extraordinary progress of the present day—how this arm may be made to achieve the best possible results? I would here remark that I shall at present avoid touching upon the subject of individual training, which has had so extraordinary an influence upon the success of cavalry, and I shall entirely confine myself to a consideration of organisation and tactics.

When the Napoleonic wars were over, Field-Marshal Blücher, in July, 1816, asked the following questions of a number of his most valued cavalry generals:—"Why has the Prussian cavalry not performed what was expected of it during the late campaigns against Napoleon, and how are the evident defects to be remedied?"

The Field-Marshal here states, as an incontrovertible opinion, that the results achieved by the cavalry had not been satisfactory, and this, too, in spite of the successes at Haynau, Luckau, at the Katzbach, at Roth-Nauslitz, Liebertwolkwitz, at Wachau in 1813, and at La Chaussée and Laon in 1814. The cavalry had certainly not done what was expected of it at Gross-Görschen, Wittstock, Dresden, nor to any extent at Dennewitz, during the pursuit after Leipzig, nor, above all, at Ligny. The incidents of this battle—where the Marshal in the thick of the fight was, as is well known, unhorsed—and in regard to which Blücher and other generals blame the cavalry—seem to have contributed in a great degree to the unfavourable judgment passed on this arm.

The officers questioned by Blücher, although considering the question from quite different points of view, came to the unanimous conclusion "that the reason why the Prussian cavalry had so signally failed to do what was justly expected of it was because the requisite numbers, both in the cavalry as a whole and even in the staff of squadrons and regiments were wanting; that they had never had any instruction, training, or practice in working in masses; and that further the cavalry of the Landwehr, brought together at a moment's notice, were of no use to give the weak Line cavalry the necessary accession of strength, while their—from every point of view—indifferent performance made them a drag upon the Line cavalry."

It may here be mentioned that during the campaigns some of the Landwehr cavalry regiments melted away to a strength of only 100 horses—a fact which furnishes a general standard of the value of raw horses only brought into the ranks at the moment of mobilisation—and that the Landwehr cavalry thus became such a drag upon the Line regiments that the two were in some cases amalgamated, even involving the actual breaking up of some regiments.[1] It seems curious that one finds no hint in the opinions of the generals of any need for increased attention being devoted to training in reconnaissance, although already even on home service,[2] where the conditions were particularly favourable, the performances of the cavalry in this branch of their duty had been very unsatisfactory, and later on they had not even attained to the low standard which was then required in this particular. One misses, too, in the opinions expressed, any hint of a matter which is for cavalry of the first importance—the selection of leaders. And yet, the closer one studies those wars, the more does the importance of this question push itself to the front.

In the Napoleonic wars it is always the same regiments which we see adding to their reputations, while others are seldom, if ever, mentioned. The reason for this did not lie either with the troops or with the material, for if we examine into the root of the matter it will be seen again and again that the cause is to be sought in the personality of the leader. Yes, we cannot but admit that at times the inferior Landwehr cavalry did wonders under really good commanders. Thus Colonel Count Henckel at La Chaussée, with five weak squadrons, overthrew one of the celebrated regiments of Polish Lancers; Major von Falkenhausen—who had already, in 1813, distinguished himself as a partisan leader, when sent to the front at La Belle Alliance with a hundred troopers of a Silesian Landwehr cavalry regiment, defeated a hostile force four times his strength, broke through to the right and in the rear of the French, and returned with important information; Major von Blankenburg, surprised partly by his own neglect in 1815, in the town of Senlis, when only a portion of his Landwehr troopers had time to mount, still managed to drive back the superior numbers of the enemy, and pursued them through the town.[3] From this time, and from the teachings of later wars, it follows, as we shall see, that for cavalry more than for the other arms of the Service, the personality of the leader must turn the scale; all those who made the campaign of 1870-71 with the cavalry, will agree with me that a Seydlitz at the head of medium Landwehr cavalry, consisting of good men, would be able to make its superiority felt.

I rate the importance of personal influence for this arm so highly that I consider all else should give way to it, and that all that can be said or done to increase the importance of the mounted branch in future wars will be of no avail, if this essential requirement is neglected. It is the case that often with many men their powers develop in the face of the enemy, which, up to that time, have been afforded no scope or opportunity for display, while often, too, reputations are lost. It is quite certain that in the cavalry, level-headedness and the ability

[1] The idea underlying this most futile measure was that the insufficiently trained Landwehr should learn their work from the men of the Line.

[2] See Frhr. v. Freytag, "*Aufklärung und Armeeführung dargestellt an den Ereignissen der Schlesischen Armee, 1813.*"

[3] "*Napoleon's Untergang.*" By v. Lettow. Berlin, 1904.

to rapidly form bold resolutions, are far more required than in the other arms. The age for a leader of cavalry seems to be that, when the full strength of manhood is unimpaired, when the will to *dare* is not yet over-influenced by the wish to *weigh*; and the leader of horse should be sought among men who still find pleasure in galloping across country. Tactical and strategical knowledge, with assurance, born of experience, in the leadership of the men placed under him, are further indispensable qualities, since youth and hard-riding of themselves are not enough. For this reason the idea, which now and again is brought forward, that, on mobilisation, vigorous young officers should, without regard to seniority, be put at the head of cavalry divisions—can hardly be carried out; the art of handling masses of cavalry can only be acquired by practice and experience, and when these are wanting—except in the case of a genius like Seydlitz—most of the chosen will be found deficient in self-confidence, and thus unfit for their position. The stir which Blücher made about the reports above-mentioned did not fall on fruitful ground: partly by reason of the poverty of the State, in part, because the men at the head of the Army were wearied out with the long wars, things remained much as they had always been. Two great cavalry manœuvres and the issue of regulations on the subject of leading, and on the proper use of cavalry masses had no abiding influence, and we shall see later on that even the campaign of 1870-71 found the Prussian cavalry in many respects not thoroughly trained for the work it had to do.

The European wars which followed offer nothing of particular interest for our consideration—chiefly by reason of the local conditions, etc. The American Civil War of 1862-65, however, is of special importance, offering, as it does, peculiar opportunities for a critical examination of the question with which we are concerned; the only difficulty lies in gauging how far that war justifies one in drawing conclusions, so different would be the conditions under which war would be waged in Europe. If from one point of view the lessons of the war are of great value as resulting from a wholly unfettered judgment—since with neither antagonist had tradition or ordinary routine—which are often opposed to real progress and actual requirements—anything to say in the organisation and handling of the mounted forces; on the other hand, the surroundings were so different to those on a European theatre of war, and the Armies so dissimilar to those we can call out, that it is hardly possible to draw any safe conclusions from the experiences gained during it. Although there was a wide dissimilarity between the Federals and the Confederates, the material on either side, both in men and horses, was quite different to ours. While the South possessed in its sport and *shikar*-loving population, and in its well-bred horses a material which is of greater value than that at our command, the North had neither suitable men nor horses, and only in the closing years of the war were they able by dint of practice and by enlistments in the Western States to form some kind of a useful cavalry. Under such conditions as obtained in the Southern States—as will nowhere be found in Europe—it was there possible to improvise an excellent mounted force, deficient, however, in the attributes which would have made it fit to take its place in line of battle; for this, both the troops and the leaders were wanting in practice and experience. In the North, where the raising of cavalry at first led only to disastrous

results, far more was accomplished in the way of improvisation of artillery (as by the French Republic in 1871), and this arm soon showed a great superiority over that possessed by the South.

How little one can measure such unique brilliant performances—as some of those of the Southern cavalry—by the European standard, we understand from the raid made by Stuart in October, 1862, into Pennsylvania, with 1,800 horse and 2 guns to rear of the whole hostile force, during which, owing to the wealth of horses possessed by the country, he was able to remount the greater number of his men, who then marched on riding a new horse, and leading the old one. The Northern cavalry also followed suit, when, at the end of April, 1863, they burst into Virginia, under Stoneman, and took 800 horses from the Virginian farmers.

The fact that these raids were successful invites discussion as to the possibility of this sort of warfare in a European campaign. I cannot altogether agree with Lieut.-Colonel Frhr. von Freytag in his "Studien über Kriegführung auf Grundlage des Amerikanischen Sezessionskrieg," when he states that "to-day no Army has such a preponderance of cavalry that it would occur to any leader to use it, as here, in partisan warfare, and thus expose it to losses which would render it unfit for use in more important operations." It is clear that in a hostile country the question would always arise in regard to such operations, as to how many of his mounted men the general in command could count upon seeing again, and whether the venture seems to promise adequate results. It is very plain that in 1870-71 our cavalry, as also that of the French, was—owing to faulty armament and training—quite unfitted for such operations, and on a European theatre of war, raids as carried out by Stuart could hardly be decided on if cavalry divisions, organised as such, are to be ready for use as they now are expected to be. But were it possible, as a condition of success, to arrive at greater independence in the cavalry divisions as self-contained fighting units, it is difficult to see why these should not find opportunities for operating against the enemy's flanks and communications (which, in these days of gigantic Armies, have increased in importance and vulnerability), as well as for work of other kinds. If this is not admitted, then we renounce getting the full value of the element of speed, whereby cavalry can appear quickly and again disappear from view, while the provision of more self-contained fighting units will naturally reduce the risk of increased losses. I consider some of these raids to be perfectly feasible in European warfare under similar circumstances—such a one as that, for instance, which the northern general, Stoneman, carried out with 3,500 horse, between the Rapahannock and James River in April, 1863, and which occasioned immense loss to his opponent. The question of the utility of such a raid as an isolated case must be decided on its merits; I am now merely discussing its practicability. For, on the other hand, it is undeniable that such raids had, not infrequently, disastrous results, as when, for instance, in Wheeler's march with the Southern cavalry at the end of August, 1864, to destroy the railway at Chattanooga, the achievement bore no proportion to the sacrifices it entailed, while—worse still—it robbed General Hood of the bulk of his cavalry, with the result that his information was faulty, and, being threatened in rear, he was compelled to fall back. Naturally, the carrying out of such operations in one's own or in a friendly country is considerably easier than in a hostile one,

and it appears to me unquestionable, that had the French cavalry been better organised and trained in the second part of the war, it would have been able to operate with considerable success against the inferior *etappen* troops holding our lines of communication.[1] One can imagine what an influence the French cavalry would have exercised upon the German operations had it succeeded in cutting the railway between France and Germany for any length of time.

A characteristic of the cavalry actions of the war of Secession was the constant employment of dismounted fire. The reason lay in the fact that the Southern horsemen from their open-air life were mounted sharpshooters, excellently trained in the use of the rifle, but wholly unpractised in the close order movements of the attack *as cavalry;* the thickly wooded country, however, in which great battles were fought out, necessitated the mounted riflemen form of action if the cavalry were to be anything but mere lookers-on. No doubt, also for the same reasons it happened that fire-action was frequently employed when the occasion was unsuited for it, as when Stuart, dismounting his men to attack Bulford's brigade in the Brandy Station battle, was placed in grave straits by the sudden appearance in his rear of a mounted brigade of the enemy. Against any other foe he would have paid dearly for his faulty tactics. In spite of the frequent employment of dismounted action, these horsemen had about them nothing of the character of mounted infantry—they looked upon themselves as cavalry, and proved that they were such by the excellent use they made of their sabres in various attacks carried out by individual squadrons and regiments.

On the 8th June, 1863, Stuart did employ his men in mass under General Lee, in an important operation entirely as a mounted force. At the same time the men were so accustomed to fight on foot that for them it was an every-day affair, and their operations—such as that where Stuart carried out a night attack dismounted at Catlett's Station on 22nd August, 1862—may be taken as models for that form of action. Over and over again the cavalry entrenched themselves to hold certain points, as did Sheridan, the best of the Northern Generals, in order to secure his communications at Old Coldharbour on 31st May, 1864.[2] If, then, the use of cavalry in this civil war cannot, in many respects, be looked upon as a model for us, we still learn from it what can be done by a cavalry to whom fighting on foot comes natural, and which has equipped itself in every way for the particular exigencies of that theatre of war. In any case, one must remember that *from the days of Napoleon until the present time in no single campaign has cavalry exercised so vast an influence over the operations as they did in this war,* wherein of a truth the personality of the leaders has been very striking—such men as, in the South, the God-inspired Stuart, and later, the redoubtable Fitzhugh Lee; and on the Northern side, Sheridan and Pleasanton. Stuart, the personification of heroism, became also the Pioneer.

(To be continued.)

---

[1] See Cardinal v. Widdern's "*Der Krieg auf den rückwärtigen Verbindungen des deutschen Heeres, 1871.*"

[2] We see everywhere in this campaign that the constant employment of dismounted action in no way destroyed the dash of the mounted man. When considering the Russian cavalry in the last Turkish war, we shall find the exact opposite to be the case.

NOTES ON THE BATTLE OF SEA OF JAPAN.

THE following account of the battle of Tsushima, published by the *Army and Navy Journal*, of New York, may be of interest:—

"We are permitted to publish the following figures and explanations compiled by Lieut.-Commander W. L. Rodgers, U.S.N., Lieutenant L. M. Overstreet, U.S.N., and Lieutenant R. D. White, U.S.N., from *data* obtained on board the Russian vessels "Jemtchug," "Oleg," and "Aurora" at Manila, P.I.

Subject: Russo-Japanese naval battle; Time and place: Off Tsushima Island, 27th May, 1905. Source of information: Visit and conversation on board the Russian cruisers "Oleg," "Aurora," and "Jemtchug."

27th May, 1905, 1 p.m. Position of fleets, just as the belligerents sighted each other:—

Nisshin.
Kasagi.
Yakumo.
Azuma.
Iwate.
Idzumo.
Towika.
Asama.

The Japanese had eight cruisers in the fight, and these are the probable ones.

Fuji.
Shikishima.
Asahia.
Mikasa.

Four battle-ships led the column.

Russian Cruising Formation.

	Osliabia	Suvaroff	Jemtchug
Isumrud	Sissoi Veliky	Alexander III.	
Torpedo	Navarin	Borodino	
craft	Ad. Nakhimoff	Orel	Torpedo craft
	Nikolai I.		Oleg
	Ad. Apraksin	Transports	Aurora
	Ad. Senyavin		Dmitri Donskoi
	Ad. Oushakoff		Vladimir Monomakh
		Almaz	
		Pamiat Azova	Torpedo craft
		Ad. Korniloff	
		Svietlana.	

The "Suvaroff" led 1st Division, Admiral Rodjestvensky.
The "Osliabia" led 2nd Division, Admiral Felkersam.
The "Nikolai" led 3rd Division, Admiral Nebogatoff.
The "Oleg" led Cruiser Division, Admiral Enquist.
The "Almaz" led Rear Division, Admiral Nukvist.

The Russians tried at once to form for battle, but the Japanese altered course and ran across the head of the Russians' double

column, giving the leaders a terrible pounding before single column was formed. The following sketches will show the positions and formations of the fleets during the battle:—

Fig. 1. Time 1.00 p.m.

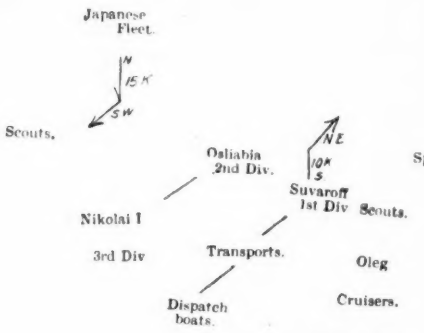
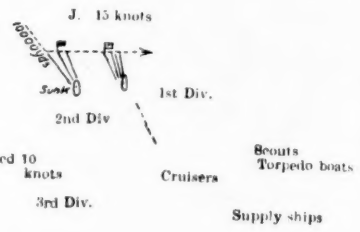


Fig. 2. Time 1.20 p.m.



Russians in cruising formation heading N.E., speed 10 knots. Japanese heading S.W. at 15 knots.

The Japanese fleet opened fire at 1.20 at 10,000 yards range while the first Russian division was obliquing into battle column.

The Japanese fleet concentrated their fire on the "Osliabia," and in fifty minutes she was destroyed and sunk. She went down firing from her after turret as the bows disappeared under water. The "Suvaroff" now received the concentrated fire. All Japanese ships in action. Only head of Russian 1st and 2nd Divisions in action.

Fig. 3.

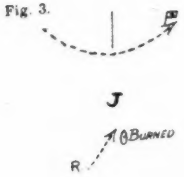


Fig. 4.

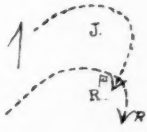


Fig. 5

The "Suvaroff" was raked and set on fire.

The Russians reversed their course on a great radius, and the Japanese followed. Togo said to have disappeared into the fog for short time.

The "Alexander III." fell out to port badly disabled.

The "Suvaroff" fell out to starboard and sank.

An observer on the "Aurora" said she was on her beam ends for fifteen minutes, and that he could see down her smoke-stacks and also the men jumping overboard. A torpedo-boat picked up Admiral Rodjestvensky and 150 men and started for the "Aurora," but was unable to board her, due to a heavy fire from the enemy. Then he sought the "Nikolai," signalled to Nebogatoff that he was wounded,

and for him to take command, and left the battle. The Russian fleet again reversed course with starboard helm and the Japanese fleet disappeared from the narrator's view, who was on the "Jemtchug"

Fig. 6. 3.00 p.m.

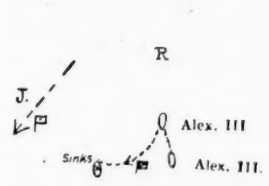
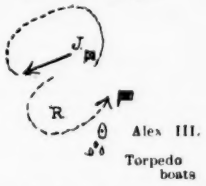


Fig 7 2nd attack 4.00 p.m



to the eastward. The Japanese probably circled with the port helm (an observer on the "Aurora" said this was the case), and was lost in the mist. In an hour the Japanese fleet reappeared, and was sighted to the northward and eastward, standing S.W. toward "Alexander III."

The Russian fleet shielded the "Alexander III." in this attack, and the Japanese disappeared from the narrator's view on the "Jemtchug" from 4 p.m. to 5.25 p.m.

The fleet now reformed under Admiral Nebogatoff, as shown in the next sketch:—

Russian Fleet as reformed by Admiral Nebogatoff.

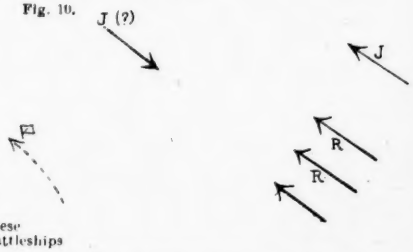
		Borodino
		Orel
Svietlana	Oleg	Nikolai, f.s.
Jemtchug	Aurora	Ad. Apraksin
Almaz	Dmitri Donskoi	Ad. Senyavin
Azova	Vladimir Monomakh	Alexander III.
		Ad. Ouskakoff
		Sissoi Veliky
		Navarin
		Ad. Nakhimoff.

Third attack. Time 5·25 p.m.

The Japanese had altered their course to the southward after the second attack at 4 p.m., and now their battle-ships appeared steaming from southward and tried to circle and head off the Russian column. The Japanese light squadron appeared on the port bow.

Fig 9.

Fig. 10.



It is thought that here the Japanese cruisers stood down between the heavy Russian columns, pouring a heavy fire into the Russian

cruisers. An observer on the "Aurora" stated that he recognised the "Chitose," "Kasagi," and "Iwate" as the vessels doing his ship the most damage. The "Aurora" and "Oleg" were both badly damaged by shot on the right starboard bow and starboard beam.

Time, 7.30 p.m.; sun-down, 7 p.m.

The Japanese seemed to be drawing around the head of the Russian column, so Nebogatoff executed "ships left" and stood to the south-west. The Russian cruisers went column left.

The "Borodino" dropped out before this change of formation, she having been destroyed.

The narrator on the "Jemtchug" now lost sight of the battle-ships in the darkness. The Japanese, after their flying attack on the Russian cruisers (as shown in Fig. 10), disappeared from the sight of the observers on the "Jemtchug" in the mist and darkness.

The fastest Russian cruisers were now by themselves headed to the southward. The "Jemtchug" tried three times to turn to the northward (first to the right and then to the left), but each time

Fig. 11

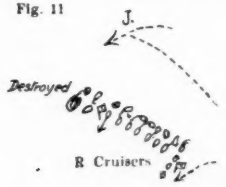


Fig. 12.

she was headed off by the Japanese light craft. The "Aurora" reports steaming most all night at 19 knots and no lights showing, trying to get to the northward. Dozens of the enemy's torpedo-boats were seen like shadows flitting about in the darkness, but the "Aurora" escaped unhurt. At any rate, high speed and no lights (on a dark night) seems good protection against torpedo-boats. Next day the Admiral (Enquist) transferred his flag from the "Oleg" to the "Aurora," and with the "Jemtchug" also came to Manila.

Remarks.—The weather was misty and the Japanese ships (painted grey were not visible at times to the enemy when the Russian ships (black hulls and white stacks) were visible to the Japanese, according to the Russian reports. The Russians said repeatedly that the Japanese fire was heavy, rapid, and accurate. Their fire control was good, and the fire concentrated on the head of the Russian column. They cannot understand why their ships (five battle-ships) capsized so quickly by gun-fire, as the range was long, the enemy opening fire at 10,000 yards, and never coming into close action. The "Aurora" and "Jemtchug" were uninjured below the protective deck, as the enemy's shells exploded violently—little penetration."

One of the officers states:—"I visited the 'Oleg' on the morning of 18th June. The ship had been struck by fifteen large projectiles, 6-inch or 8-inch, only one of which had exploded inside. I was surprised at not finding the wrecking effects inside, to be expected when unarmoured sides are exposed to the impact of common shell. The Japanese fuses are evidently very sensitive, and the shells are exploded with some high explosive, as all but one of the shells exploded on striking the skin

plating, tearing holes in the sides and causing many splinters and small fragments to fly in all directions. The Russian officers stated that they found traverses and screens made of hammocks most effectual in stopping these fragments. The "Oleg" lost thirteen killed and thirty, including two officers, wounded, two of whom have since died. The ship had suffered little real damage; one small compartment above the protective deck was flooded because of a water-line hit, but not a gun was disabled, and the only damage to the interior of the ship was caused by the one shell exploding on the berth deck near an ammunition hoist, which was disabled, setting fire to the charge then in the hoist, which dropped into the handling room, where the flames were extinguished. This shell damaged some of the auxiliary piping in this compartment, but nothing of importance in the battle, except voice tubing, was injured. Below the protective deck the ship was not damaged, engines, boilers, etc., not affected in any way, as the "Oleg" steamed over 20 knots at the close of the battle. The officers said that they first sighted the Japanese cruisers at 10 a.m., and the engagement with the battleships began at about 1 p.m.; that during the night they saw many torpedo-boats, and heard from their own decks the firing of three torpedoes; that they saw a Japanese cruiser sink, and also a number of Japanese afloat on wreckage. They discussed the battle, etc., freely but declined to talk of Admiral Nebogatoff, whose actions evidently did not meet with their approval. The "Oleg" seemed to be in good condition considering her experiences, and was clean. Until a few days ago her berth deck and living spaces had been filled with coal and her ward room turned over to the sick and wounded."

—*U.S. Army and Navy Journal.*

NAVAL NOTES.

HOME.---The following are the principal appointments which have been made: Rear-Admiral—G. F. King Hall to be Senior Officer on the Coast of Ireland. Captains—The Hon. W. G. Stopford to be Commodore, 2nd Class, for command of Royal Naval Barracks, Portsmouth; R. H. Bacon, D.S.O., to "Irresistible"; P. V. Lewes, D.S.O., to "Hyacinth"; F. J. Foley to "New Zealand"; P. W. Bush, M.V.O., to "Cambridge"; C. H. Moore to "Argyll"; H. Lyon to "Bedford"; R. H. Peirse, M.V.O., to "Commonwealth"; C. D. Granville to "Trafalgar"; C. F. Sowerby to "Isis"; A. H. Christian to "Duke of Edinburgh"; G. C. A. Marescaux to "Europa" Commanders—J. C. Tancred to "Pelorus"; R. Sullivan to "Pandora."

Vice-Admiral the Hon. Sir A. G. Curzon-Howe, K.C.B., C.V.O., C.M.G., hoisted his flag on the 5th inst. at Devonport on board the "Cæsar" as Second-in-Command of the Channel Fleet, in succession to Vice-Admiral Sir A. W. Moore, K.C.B., K.C.V.O., C.M.G.

Rear-Admirals E. H. Gamble, C.B., and C. H. Adair hoisted their flags on the 3rd inst. at Plymouth and Chatham on board the "Empress of India" and "Resolution" respectively, in command of the Reserve Divisions at those ports.

The first-class armoured cruiser "King Alfred" commissioned at Portsmouth on the 2nd inst. as flag-ship in China. The first-class armoured cruiser "Kent" commissioned on the 2nd inst. at Chatham for service on the China station, where she will relieve the first-class armoured cruiser "Hogue"; her sister-ship, the "Sutlej," on the same station, is also to return home on the arrival of the "King Alfred" at Colombo.

The second-class cruiser "Hermes" commissioned on the 9th inst. at Portsmouth for service as flag-ship on the East Indies station, where she will relieve her sister-ship, the "Hyacinth." The second-class cruiser "Iphigenia" arrived at Plymouth on the 11th ult. from China, and will pay off at Portsmouth. The third-class cruisers "Mildura" and "Phœbe" arrived at Plymouth on the 6th and 8th ult. from the Australian station, and will pay off at Chatham and Portsmouth respectively, after which both ships will be sold out of the Service.

Orders have been given by the Admiralty for the Channel, Atlantic, and Mediterranean Fleets, together with the three squadrons of armoured cruisers, to assemble at Lagos, on the coast of Portugal, about the

middle of February for the purpose of carrying out combined exercises under the chief direction of Admiral Sir A. K. Wilson, V.C., G.C.V.O., K.C.B., Commander-in-Chief of the Channel Fleet.

Steam Trials.—The new first-class armoured cruiser "Black Prince" has completed her steam trials with the following results:—On the second 30 hours' trial the engines developed 16,699-I.H.P., and the mean speed during the whole of the 30 hours was 21·6 knots. On the 8 hours' full-power trial, which was made off Plymouth on the 12th ult., the engines developed 23,939-I.H.P., giving a mean speed on the measured mile of 23·66 knots. There was a marked absence of vibration, and the ship proved to be very steady in a sea-way.

With the conclusion of the full-power trial of the scout "Attentive" on the 12th ult., the whole of the new class, consisting of eight vessels of the scout type recently constructed for the Navy, have now been completed. The vessels have successfully fulfilled the conditions laid down, the most important of which is undoubtedly speed. Accounts have already appeared of most of these vessels. The particulars of the "Attentive," constructed by Sir W. G. Armstrong, Whitworth, & Co., at Elswick, are as follows:—Length between perpendiculars, 374 feet; beam, 38 feet 3 inches; mean draught on trial, 12 feet 6 inches; displacement on trial, 2,620 tons. On the full-power trial of the "Attentive," after ascertaining the necessary revolutions for full speed by six consecutive runs over the new measured mile course at St. Abb's Head, the continuance of the trial for the contract period of eight hours gave the vessel a mean speed for the whole run of 25·88 knots, with a mean H.P. of 16,195, and mean revolutions of 257·3. It is worthy of note that through the whole course of the trial the speed gradually increased from something over 25 knots until, during the last hour, a speed of 26¼ knots was recorded. It is therefore claimed that the "Attentive" is the fastest of the whole class, and it is believed that she is the fastest ship in the world exceeding 300 feet in length and 2,000 tons displacement, the previous record over the full period of trial being held by the sister vessel, the "Adventure," also built by Messrs. Armstrong. During the trials of their two scouts Messrs. Armstrong made a series of interesting experiments with different propellers, and it is claimed that it was the final selection made for the "Attentive" which gave to her the superiority over the "Adventure" in point of speed. The engines of all the eight scouts are of the reciprocating type, those for the "Adventure" and "Attentive" being supplied by Messrs. Hawthorn, Leslie, & Co. (Ltd.)—*Times.*

The Gun-layers' Test.—The result of the test of gun-layers in His Majesty's Fleet, 1905, has been published as a Parliamentary paper [Cd. 2703]. In a covering letter addressed to the commanders-in-chief, captains, commanders, and commanding officers of His Majesty's ships and vessels, dated 12th December, it is stated that their lordships note with much satisfaction the great improvement in the results as compared to former years. The conditions under which the practice took place were different to those of 1904, the range being shortened to that in use in 1903 and previous years, the target being smaller than that used in 1904, and reduced also as compared to the target in use in 1903 and previous years as regards the 9·2-inch guns and above. The award of the medal will be promulgated in due course.

The following is the abstract of the firing:—

Order of Merit.	Fleet or Squadron.	No. of Ships.	No. of Men Firing.	Points per Man.	First Ship in Fleet.	Scores.
1	Atlantic	15	211	76·01	Illustrious	108·87
2	3rd Cruiser ...	4	52	75·43	Leviathan	105·38
3	Channel	14	188	74·64	Exmouth	127·78
4	2nd Cruiser ...	6	78	69·05	Berwick	87·64
5	Mediterranean ...	12	147	68·52	Bulwark	114·04
6	East Indies ...	5	43	66·66	Perseus	100·09
7	China	14	162	65·05	Iphigenia	91·40
8	Cape of Good Hope	4	38	61·14	Pelorus	74·58
9	1st Cruiser ...	6	72	61·63	Monmouth... ...	81·49
10	Australia	5	47	55·27	Pegasus	74·58
11	North America and West Indies ...	4	36	53·04	Diamond	68·03
12	Tenders	11	22	26·12	Skipjack	52·92
		100	1,096	68·26		

Statement of Admiralty Policy—(concluded):—

Shipbuilding Policy.

Before deciding on the building policy of the present year, an accurate review of our naval position as regards other Powers had to be made.

It must be remembered that however formidable foreign shipbuilding programmes may appear on paper, we can always overtake them in consequence of our resources and our power of rapid construction.

Rapid shipbuilding is of great importance, because:—

a. The fighting vessel is sooner tested, so that improvements suggested by experience may be effected, and defects may be brought to notice in time to be avoided in succeeding vessels. Thus, it is most desirable to complete the first ship of a new class with all possible despatch.

b. It is obviously more conducive to the immediate fighting power of the Fleet to push forward a limited number of vessels to completion than to spend the same money on a larger number building at a slower rate.

c. There is the financial benefit of sooner getting interest on capital by having vessels at sea ready to fight instead of partly completed and not ready to fight, even if the number of the latter is much greater.

d. It is economical to run all the shipbuilding machinery at its full ordinary rate of output. There is a constant gain in building more rapidly up to the point when men begin to be too closely packed to work without hindering each other, or at which excessive overtime and high rates of pay are involved.

e. An immediate result of building at, say, twice the usual rate would be that only one-half as many ships would be under construction at any one time. There will be needed, therefore, for building purposes, proportionally less slip, dock, and basin accommodation.

At the present time strategic requirements necessitate an output of four large armoured ships annually, and unless unforeseen contingencies arise, this number will not be exceeded. The period of building is to be two years, and therefore four ships will be laid down each year, and there will be eight ships in course of construction in any one year either in the Dockyards or by contract.

The Board have come to the conclusion that the right policy is to make out their programme of shipbuilding for the next year only, and while they anticipate at present that the output of four large armoured ships a year should suffice to meet our requirements, there would be no difficulty whatever in increasing this output to whatever extent may be necessary in consequence of any increase of Naval Power abroad.

Dockyard Reform.

As foreshadowed in the First Lord's Statement that accompanied the Navy Estimates for this year, the subject of the administration of the several Naval Establishments had been enquired into, and important organic changes have been decided upon, especially in regard to the Dockyards, etc., as explained later in Note D, relating to Dockyard reorganisation.

Naval Expenditure.

The Navy Estimates as now presented yearly to Parliament must not be looked on only as the cost of our first line of defence. They also include the cost of many subsidiary services, some of which only indirectly affect the Navy, such as, for instance, Fishery Duties, Scientific Services, and the work of the Coastguard. These absorb about £1,000,000 of the money included in the Navy Estimates.

The whole cost of the Observatories at Greenwich and the Cape of Good Hope falls on the Navy Estimates, although they are mainly of scientific interest, and only indirectly of practical service to the Navy.

Policing the Fisheries costs £260,000 a year, which is necessarily spent on a type of ship which would not be built for war alone.

It is desirable to remember how this million is spent, when considering the amount of Naval Expenditure.

Conclusion.

The whole of the recent reforms have an effect on the Navy Estimates. The elimination of older ships reduces the number of men required; it permits us to keep the Navy up to the most modern requirements, while limiting the charges incident to increase of numbers. The reduction of the smaller establishments abroad has made possible considerable saving in stores and maintenance charges. With the condemnation of old ships, obsolete guns and armaments disappear; consequently magazine accommodation on various stations for innumerable classes of ammunition is no longer necessary, the maintenance of plant for repairing and altering types of guns and munitions is no longer required, and the space vacated can be devoted to more useful purposes, thus saving new expenditure on works.

The new education scheme will give Naval Officers of the future an adaptability for the duties of all the branches of their calling, which will make possible a certain reduction of the number of officers as compared with present requirements.

The development of the Non-continuous Service system for seamen, and the restriction of re-engagement for pension to the higher ratings,

will effect considerable savings on the non-effective votes for pensions. The entry of Non-continuous Service men will effect a saving in the costs of early training.

I have recently received the report (given in a separate note) of a Committee I appointed to consider the Estimates for 1906-7, and I am able to say that these various economies will allow the Board to diminish the sum for which Parliament will be asked by a further 1½ million beyond the 3½ million reduction made last spring.

I am bound, however, to add a word of caution, for the public cannot rely on this reduction being continued in future years if foreign countries make developments in their shipbuilding programmes which we cannot now foresee; but the programme of shipbuilding we have in view for future years, and have provided for, will, in the opinion of the Board of Admiralty, meet all the developments of which the resources of foreign countries seem at present capable.

I append some notes which have been prepared in the department with respect to certain of the principal changes.

November 30th, 1905. CAWDOR.

The notes referred to by Lord Cawdor relate to the principal reforms undertaken by the Admiralty in the period 1903-05, and are arranged under the heads :—*Personnel*, Fleet Reorganisation, Obsolescence of Warships, Dockyard Reorganisation, and Estimates Committee.

The following tables appear as appendices "A" and "B" :—

APPENDIX A.

Table I.—Fleet in Commission.

—	Battle-ships.	Armoured Cruisers.*	Large 1st and 2nd Class Protected Cruisers.	Smaller 2nd and 3rd Class Cruisers.	Scouts.	Gun-boats.	Destroyers.	T.B.	Submarines.
Channel	17	6	2	2	1	—	24	—	—
Particular service	—	—	5	1	—	—	—	—	—
Training-ships ...	—	—	5	—	—	—	—	—	—
Home waters ...	—	—	—	1	—	14	—	20	17
Atlantic	8	6	1	1	1	—	12†	12	—
Mediterranean ...	8	4	3	—	1	—	22‡	9	—
Eastern Fleet ...	—	5	3	9	—	—	13	4	—
Cape	—	—	1	3	—	—	—	1	—

*Armoured cruisers include "Powerfuls" and "Diadems." †Six in commission, six in reserve. ‡Fifteen in commission, seven in reserve.

Table II.—Fleet in Commission in Reserve in Home Waters.

Battle-ships.	Armoured Cruisers.*	Large 1st and 2nd Class Protected Cruisers.	Smaller 2nd and 3rd Class Cruisers.	Scouts.	Gun-boats.	Destroyers.	T.B.
12	14	8	8	5	3	71	33

*Armoured cruisers include "Powerfuls" and "Diadems."

APPENDIX B.

Financial Saving Consequent on the Reorganisation of the Fleet.

(As estimated in April, 1905.)

Table I.—Cost of New Organisation.

—	Pay, Wages, and Allowances.	Victualling.	Maintenance of Ships, including Hull, Machinery, Gun Mountings, Torpedo Fittings, Maintenance Stores and Coal.	Medicines.	Naval Ordnance Stores.	Miscellaneous.	Total.
	£	£	£	£	£	£	£
Additional vessels in Commission	585,000	195,000	See below*	5,000	60,000	25,000	870,000
Ships with nucleus crews	506.000	160,000	See below*	4,000	40,000	10,000	720,000
Vessels in full Commission with nucleus crews, and in Dockyard hands, *i.e.*, the entire Fleet, except ships building.	—	--	*3,105,000	—	—	—	3,105,000
Cost of Naval Establishments at :—							
Jamaica	—	—	—	—	—	—	Nil.
Halifax	—	—	—	—	—	—	
Esquimalt	—	—	—	—	—	—	
Trincomelee	—	—	—	—	—	—	
Ascension							
Cape of Good Hope ...	75,000	inclusive of all Establishment charges					75,000
Bermuda							
Total	1,166,000	355,000	3,105,000	9,000	100,000	35,000	4,770,000

Table II.—Cost of Former Organisation.

Ships in Commission reduced.	1,055,000	350,000	See below†	10,000	105,000	50,000	1,570,000
Ships in Fleet Reserve ...	208,000	60,000	See below†	2,000	—	5,000	275,000
Vessels in Commission, in fleet and Dockyard Reserve, *i.e.*, the entire Fleet except ships building.	—	—	†3,950,000	—	—	—	3,950,000
Cost of Naval Establishments at :—							
Jamaica							117,000
Halifax	117,000	Inclusive of all Establishment charges					
Esquimalt							
Trincomalee							
Ascension							150,000
Cape of Good Hope ...	150,000						
Bermuda							
Total	1,530,000	410,000	3,950,000	12,000	105,000	55,000	6,062,000
Less expenses under New Organisation (see Table I)	1,166,000	355,000	3,105,000	9,000	100,000	35,000	4,770,000
Estimated net annual saving.	364,000	55,000	845,000	3,000	5,000	20,000	‡1,292,000

‡ Exclusive of a prospective reduction of about £60,000 a year in liability for retired pay and pension.

FRANCE.—The following are the principal promotions and appointments: Capitaines de Frégate—F. M. C. Lahalle to be Capitaine de Vaisseau; G. P. Collas to "Lévrier" and Command of the 2nd Torpedo Flotilla.—*Journal Officiel de la République Française.*

New Ships and Dockyard Notes.—At Brest the attention of the yard is concentrated on the work of completing the two new first-class battle-ships "République" and "Démocratie"; the shells and turrets of the first named are in place and ready to receive the armour, which has all been delivered alongside the ship, and she is receiving her first coat of paint outside since she was launched. Although launched nearly a year later, the "Démocratie" is almost in as forward a state; all her side armour is in place, and the armour bases for the turrets of the 19·4-cm. (7·6-inch) guns are also fixed. The progress made with the "Démocratie" shows how much more economical it is to build a series of ships of one design. The difference in the armament of the two ships, viz.: the substitution of ten 9·4-cm. (3·7-inch) guns in the "Démocratie" for the eighteen 16·4-cm. (6·4-inch) guns of the "République," will not cause any delay, while the more powerful secondary armament thus provided will greatly increase her fighting efficiency.

Work on the construction of the new armoured cruiser "Edgard Quinet," which was recently laid down in the yard at Brest, is now in full swing The work, also at the same yard, of the reconstruction of the armoured cruiser "Dupuy de Lôme," the first real armoured cruiser ever built, is proceeding rapidly and satisfactorily. The new Normand small-tube water-tube boilers are in place; the after military mast has been removed, a smaller and more stumpy one taking its place, which does not rise much above the after bridge, but there are two platforms, on the lower one of which will be carried four 3-pounders, and the upper one a search-light; the foremost military mast has also been shortened.

At Lorient, work on the new armoured cruiser "Victor Hugo" is proceeding satisfactory; the armoured turret for the foremost 19·4-cm. (7·6-inch) guns has been now finished, and it is hoped she will soon be ready to commence her trials. She and her two sister-ships, the "Gambetta" and "Léon Ferry," will by the end of the present year be ready to form a small but really homogeneous and powerful little squadron of armoured cruisers.

The work of extending the yard is also proceeding, and the contract for lengthening No. 2 dock has been given out.

The new first-class armoured cruiser "Jules Ferry" has completed her trials satisfactorily. At her full-speed trials the engines developed 29,200-I.H.P., or 1,500-H.P. over the contract, giving her an estimated speed of 23 knots. For some reason the bearings on the measured mile do not appear to have been accurately taken. At her 24 hours' coal-consumption trial, with the engines making 107 revolutions and developing 16,508-I.H.P., the coal consumption per H.P. per hour was 744 gr. (1·48 lbs.). At a further run of six hours' duration, with the engines developing 17,000-I.H.P., the coal consumption was 710 gr (1·43 lb.); with the fires lighted under four of her boilers only, the engines developed 8,500-I.H.P., giving a speed of 16 knots. The ship is fitted with the Guyot-Du Temple small-tube boilers, which are fitted in most of the torpedo-boats. She is to be commissioned almost immediately, and will then undergo, so it is reported, a series of competitive trials with her sister-ship, the "Léon Gambetta."

Submarine Boats.—The dimensions of the new submersibles, designed by M. Laubeuf, which are to be constructed at Cherbourg, under the programme for 1906, are as follows: — Length, 167·72 feet; beam, 16·3 feet; draught, 10·23 feet, with a displacement of 398 tons. The engines are to develop 700-H.P.; the motive power when on the surface will be steam; when submerged, electricity. There will be two propellers, and the estimated speed 12 knots; for armament there will be 7 torpedo discharges. Twelve are to be built at Cherbourg, three at Rochefort, and three at Toulon.

In a recent article the *Yacht* draws some comparisons between the submarines which up to the present have been laid down in France and England. It gives a list as follows of the dates, names, and tonnage of those laid down in the two countries:—

Years.	France.	England.
1885.....	— "Gymnote" (31 tons), submarine	
1888.....	— "Gustave Zédé" (266 tons) —	
1897.....	— "Morse" (136 tons) —	
1898.....	— "Narval" (116 tons) submersible	
1899.....	— "Français," "Algérien" (143 tons) submarines	
	— 4 submarines, "Farfadet" type, 184 tons	
1900.....	— 4 submersibles, "Sirène" type, 157 tons	5 of the "Holland" type of 120 tons (Nos. 1 to 5).
1901.....	Mar. 20 submarines, "Naïade" type, 68 tons	1 of 180 tons: A_1.
	Apr. "X," 168 tons Apr. "Y" 223 tons } trial submarines May "Z" 202 tons	
1902.....	May 13 submersibles, "Aigrette" type, 175 tons (11 were countermanded by M. Pelletan, September, 1902)	3 of 200 tons, A_2, A_3, A_4.
1903.....	(Jan.) "Omega," submersible, 301 tons (Oct.) 6 submarines, "Emeraude" type, 392 tons	9 of 200 tons, type A (A_5 to A_{13}). 1 of 300 tons, type B (B_1).
1904.....	Oct. 2 submersibles, "Circé" type, 351 tons	10 of 300 tons, type B (B_2 to B_{11}).
	Nov. 10 submarines, "Guêpe" type, 45 tons	
	Dec. 2 submersibles of 400 tons	
	(8 of the 10 submarines of the "Guêpe" type have been suspended by M. Thomson, by the request of the Budget Commission.)	
1905.....	The Budget recommends the construction of 16 submersibles of 400 tons. The plans are the same as those of the two submersibles ordered in December, 1904.	11 of 300 tons, type B (B_{12} to B_{22}).

The writer shows that while there are only three types of submarines in England, in France there are 16, and that the displacement of these has been continually changing; beginning at 31 tons, it rose to 266, then fell to 136, again rising to 184, falling again to 68 to rise to 300 and 400, once more falling to 45 again to rise to 425. In England, on the other hand, the tonnage of the submarines has been steadily increased —an advance which is logical and justified as the result of the experience acquired. The writer holds that M. Pelletan, the late Minister of Marine, is to blame for the fact that France has lost much of the lead

in the matter of submarines, which she at one time undoubtedly possessed over other countries, England included.

Précis of M. Charles Bos's Report on the Naval Estimates for 1906 (continued). Part II. Chapter I.—M. Bos proceeds to point out that more and more the battle-ships and armoured cruisers among the principal naval Powers are tending to approach each other, and that in his opinion it will not be long ere the two types of ships are merged in each other. The startling victory of Tsushima is confirming this view; other Powers are already profiting by the lessons it conveyed, and it is time that France should do the same.

* * *

He next proceeds to examine one after the other the different elements which go to make up a ship of war, applying to each part in turn the improvements which the Russo-Japanese war would seem to suggest:—

1. The *Hull proper*, including the lines of the ship, the armour, the steering apparatus, the means for transmitting orders, etc., the water-tight compartments, the coal stowage, torpedo discharges, etc.
2. The *Superstructures*, including the masts and tops, the guns in the tops, the funnels, conning-tower, wireless telegraphy apparatus, bridges, etc.
3. The *Engines and Screws.*
4. The *Boilers.*
5. The *Armament* (guns of all calibres and mountings).
6. The *Ammunition Supply.*
7. The *Personnel*, which we shall classify as follows:—
   a. Fag officers.
   b. Superior and subordinate officers (executive and engineering).
   c. Warrant and petty officers.
   d. Seamen specialists, and for deck duties.
8. The *Speed.*
9. The *Type of Fighting Ship.*

* * *

M. Bos makes no pretence in this study to a technical knowledge which he does not possess, and states that he confines himself to putting forward, as clearly as possible, the criticisms and the demands of the experts (officers and engineers) who have carefully followed the different phases of the Russo-Japanese war. All the reforms, the improvements, and novelties, which he will point out as he goes along, have been suggested by them. It seems to him to be the best way of compiling the Report on the Naval Estimates to lay before Parliament the conclusions at which the men who have to construct the ships and fight them in action have arrived. He thinks in all sincerity that certain of these conclusions are such as to appeal to any ordinary common-sense.

Chapter II.: The Hull.

M. Bos recalls that in his report last year he called attention to the fact that the lines of the hulls of most of the new ships were bad, and he proceeds: "In speaking of the lines, we referred more particularly to the run of the bow and stern. We pointed out that the scantling was too

weak, that the frames were too far apart, and that it had been necessary to strengthen them, and in some ships increase their number. Finally, we cautioned the Department of the Ministry of Marine against the fault which had been committed in sacrificing to speed the strength of certain of the midship parts of our fighting-ships.

"We supported our statements, first by the complaints of officers serving on board these ships, then by the mishaps which had occurred after they had been launched, and then by the fact that, in order to obtain the guaranteed speed, our ships had to be from forty to sixty feet longer than similar classes of vessels in foreign Navies, and that they were obliged to have a third or even more greater horse-power. An attempt has been made to show that these criticisms were not justified; it has not succeeded because they happen to be the truth.

"We have demanded that the Chief of the Technical Section shall no longer, on his own responsibility, work out the definite scheme of new ships. The engineers of the dockyard will, as was formerly the case, be called upon to furnish some preliminary estimates. The Department will select from among them that on which the ship will be built. Some new ideas will thus reveal themselves, as among several men of the same profession there must be more ideas than where there is only one. Moreover, the Model Trial Basin will be ready for use at the beginning of the year, which will render it far easier to study the form of the hull to be given to ships.

"We once more draw the attention of the Ministry to the advisability of adopting in the new ships different lines for the stern, as those we have with many officers criticised tend, in a heavy sea, to bury the ship's nose and thus decrease its speed.

* * *

Insufficient Protection of the Ships of the 1900 Programme.

"None of our ships at present in commission or under construction are sufficiently protected against the torpedo. The protection over a great part of their hulls will not resist the heavy 12-inch, 10·8-inch and 9·4-inch projectiles. The battle-ships even of the 1900 Programme are to-day already out of date.

"In these ships the thick 280-mm. (11-inch) armour only extends 3 feet 3 inches below the water-line, and only affords protection to the hull for 11 feet above. The English ships have only 9-inch armour; the Japanese and United States ships the same. The new Russian ships of the "Andrei Pervosvanni" class, have only 8·5-inch armour; but, on the other hand, the armour of all these ships is carried lower below the water-line and above to a height of from 13 to 16 feet up the side.

"A thickness of 8·6-inch armour would appear to be sufficient, no case of armour being penetrated having occurred during the Russo-Japanese War. The economy in weight should be utilised to increase the surface of hull protected, both above and below the water-line. We lay stress on these two points; a 12-inch shell, which should strike the "Patrie" or "République" above the belt, or penetrating under water anywhere for some 30 or 40 feet in the fore part of the ship, would certainly cause grave injuries.

"On the other hand, it does not appear that the thickness of the upper belt of armour can well be diminished. The thickness of 200 mm. (7·8-inch), adopted in the battle-ships of the 1900 Programme,

appears to be suitable. The English 'King Edward VII.' class has 8-inch; in the Russian 'Tsarevitch,' which stood without serious injury, except to her steering apparatus, the fire of four Japanese battle-ships and four armoured cruisers at the battle of the 10th August, 1904, the upper belt was only 7·8-inch armour. Perhaps, as in the 'King Edward VII.,' the upper belt should only be carried forward to the extremity of the central battery, which would result in a sensible saving of weight."

M. Bos considers that some means must be found of better protecting ships against torpedoes. The Germans, he points out, have under consideration, a type of ship which should have a triple hull. Without going as far as that, he thinks that it is important to have a complete double hull; the two hulls being separated by bulkheads, between which would be compartments filled with coal, and cofferdams filled with cellulose or other material capable of diminishing the effect of explosions. The system of protection adopted by M. Lagane, the Chief Constructor of the La Seyne Yard, for the Russian battle-ship "Tsarevitch," by running two 1·8-inch longitudinal bulkheads, the whole length of the ship each side, might have further consideration, as it is understood the Germans are actually adopting this plan in their new ships.

In regard to the abolition of the ram, M. Bos holds strongly that its days are over, in view of the ranges at which modern battles are now fought, and further, that it decreases the speed of a ship. It is believed that the English Admiralty have decided on its suppression in their new battle-ships, and that there will be a corresponding economy in weight. So, with regard to the torpedo-discharges in large ships. The battle-ships and armoured cruisers of the 1900 Programme all carry 3 above-water and 2 submerged tubes, while during the Russo-Japanese War not a single torpedo was launched with effect by one of the large fighting-ships. A battle-ship or cruiser should be able to repel an attack of torpedo-boats by means of her small guns. In action between two large units, it is the gun which will have the last word. Under these circumstances the torpedo-tubes in large ships should be suppressed, as every useless fitting is only an embarrassment. The space occupied, and the weight gained by their removal, would be far better employed for the stowage of more ammunition for the guns, and it is recommended that in the new ships to be built this should be done. There will thus be a real specialisation of our fighting units, each being used exclusively for the object for which they are designed: the gun and shell for the battle-ship and cruiser, the torpedo for the torpedo or submarine.

The coal bunkers should be placed all round the boilers, in order that the transport of coal and oil to the fires should be as easy as possible. The modern ship being immobilised when her fuel gives out, it is necessary to consider how best to carry the largest quantity, so as to make her radius of action as extended as possible. The complete double hull, which defence against the torpedo renders necessary, seems to offer easily the additional space required.

With regard to the magazines, the fate of the "Petropavlovsk," which sank in two minutes, shows the constructors what they ought to do. These magazines should be placed as close as possible to the guns they have to supply; in the next place, their walls should be armoured. No hesitation is permissible under this head, a torpedo or a shell exploding in close proximity to a magazine being able to cause the explosion of the shells in it, as happened to the Russian ship. The Japanese are showing us the road to follow. In the two battle-ships at present building in

England they have required that the magazines should be placed between the boiler-rooms and be protected externally by 12-inch armour.

(To be continued.)

UNITED STATES. — *Navy Target Practice.* — The Navy Department publishes for the information of the Service the standing of the various fleets, squadrons, and vessels in the record target practice competition, 1905. In this calculation vessels of the first rate have a weight of 4; second rate, 3; third rate, 2; and vessels of the fourth rate, 1. Vessels carried on the Navy List as third rate but armed with no gun larger than a 6-pounder, are given a weight of 1.

The fleet and squadron arrangement follows that given in the Navy Register, dated 1st January, 1905, except that by special request made and approved before the practice, the "New York's" score was counted in with the Pacific Squadron, in view of the fact that her training had been held while flag-ship of that squadron.

Final Merit of Fleets and Stations.

NOTE.—These figures include every vessel (giving above weight to each) in each fleet.

1.	Asiatic Fleet	107·50
2.	Pacific Fleet	88·01
3.	North Atlantic Fleet	84·16

Final Merit of Squadrons and Divisions of Squadrons.

NOTE.—The following table shows the standing and final merit :—

1. Of all regularly organised squadrons, including, with their allotted weights, all vessels in each.
2. Divisions and sub-divisions of squadrons in order to facilitate the comparison of different groups of more or less similar ships.

Standing.	Squadron. Composed of	Final Merit.
1.	Battle-ship Squadron, Asiatic Fleet, 2 battle-ships, 1 monitor, 3 gun-boats, 5 destroyers	117·79
2.	Cruiser Squadron, Asiatic Fleet, 3 cruisers	93·28
3.	Philippine Squadron, Asiatic Fleet, 6 gun-boats	91·43
4.	Pacific Squadron, 5 cruisers, 2 destroyers	88·01
5.	Battle-ship Squadron, North Atlantic Fleet, 8 battle-ships, 1 gun-boat, 4 cruisers	86·83
6.	Caribbean Squadron, North Atlantic Fleet, 6 cruisers	85·03
7.	Coast Squadron, 1 battle-ship, 3 monitors, 5 destroyers	74·92

Sub-divisions of Squadrons.

1.	Battle-ship Squadron, Asiatic Fleet, without gun-boats and destroyers, 2 battle-ships, 1 monitor	141·42
2.	Battle-ship Squadron, Asiatic Fleet, without destroyers, 2 battle-ships, 1 monitor, 3 gun-boats	132·96
3.	Gun-boat Division of Battle-ship Squadron, Asiatic Fleet, 3 gun-boats	101·95
4.	Battle-ship Squadron, North Atlantic Fleet, without cruisers and gun-boats, 8 battle-ships	90·82

Standing.	Squadron. Composed of	Final Merit.
5.	Pacific Squadron without destroyers, 5 cruisers	84·82
6.	Coast Squadron, North Atlantic Fleet, without destroyers, 1 battle-ship, 3 monitors	81·54
7.	Cruiser Division, Battle-ship Squadron, North Atlantic Fleet, 4 cruisers	78·85

Torpedo Craft.

1.	Pacific Squadron, 2 destroyers	108·75
2.	First Flotilla, Battle-ship Squadron, Asiatic Fleet, 5 destroyers	75·35
3.	Second Flotilla, Coast Squadron, North Atlantic Fleet, 5 destroyers	63·00

Final Merit of Ships.

Class I.—Vessels competing for the Battle-ship Trophy :—

Standing.	Vessel.	Squadron and Station.	Final Merit.
1.	"Oregon" (Trophy)	Battle-ship, Asiatic	147·98
2.	"Monadnock"*	Battle-ship, Asiatic	139·72
3.	"Wisconsin"*	Battle-ship, Asiatic	136·13
4.	"New York"*	Pacific	126·82
5.	"Kentucky"	Battle-ship, North Atlantic	112·65
6.	"Nevada"	Coast, North Atlantic	110·49
7.	"Illinois"	Battle-ship, North Atlantic	102·79
8.	"Missouri"	Battle-ship, North Atlantic	99·34
9.	"Maine"	Battle-ship, North Atlantic	94·86
10.	"Iowa"	Battle-ship, North Atlantic	93·91
11.	"Massachusetts"	Battle-ship, North Atlantic	85·92
12.	"Alabama"	Battle-ship, North Atlantic	82·85
13.	"Olympia"	Cruiser Div., B.S., North Atlantic	78·37
14.	"Florida"	Coast, North Atlantic	77·71
15.	"Arkansas"	Coast, North Atlantic	74·47
16.	"Texas"	Coast, North Atlantic	69·51
17.	"Brooklyn"	Cruiser Div., B.S., North Atlantic	54·69
18.	"Kearsarge"	Battle-ship, North Atlantic	54·22
19.	"Wyoming"	Pacific	53·75

Class II.—Vessels competing for the Cruiser Trophy :—

1.	"Raleigh" (Trophy)	Cruiser, Asiatic	134·09
2.	"Cleveland"	Cruiser Div., B.S., North Atlantic	105·60
3.	"Newark"	Caribbean, North Atlantic	102·03
4.	"Des Moines"	Cruiser Div., B.S., North Atlantic	101·13
5.	"Dixie"	Caribbean, North Atlantic	97·44
6.	"Petrel"	Pacific	85·41
7.	"Baltimore"	Cruiser, Asiatic	79·63
8.	"Denver"	Caribbean, North Atlantic	76·30
9.	"Cincinnati"	Cruiser, Asiatic	72·96
10.	"Boston"	Pacific	72·44
11.	"Tacoma"	Caribbean, North Atlantic	70·48
12.	"Marblehead"	Pacific	68·84
13.	"Bennington"	Pacific	59·94

*The asterisk indicates that the vessel attained 85 per cent. or more of the final merit of the winning vessel in her class.

—*U.S. Army and Navy Journal.*

MILITARY NOTES.

HOME.—The following are the principal appointments which have been made :—

Lieut.-Generals — Lieut.-General Sir A. Hunter, K.C.B., D.S.O., Commanding Western Command, India, to be General. Lieut.-General E. P. Leach, V.C., C.V.O., C.B., to be a General Officer Commanding-in-Chief, 2nd Class. Lieut.-General Sir W. G. Nicholson, K.C.B., to be Quartermaster-General to the Forces (Third Military Member, Army Council).

Major-Generals—Major-General Inigo R. Jones, C.V.O., C.B., to Command the Troops, Straits Settlements. Major-General Sir C. E. Knox, K.C.B., Commanding 4th Division, to be Lieut.-General. Major-General A. S. Wynne, C.B., Commanding 6th Division, to be Lieut.-General. Major-General Sir H. J. Alderson, K.C.B., to be Colonel Commandant, Royal Artillery.

Colonels—Colonel F. S. Robb, C.B., M.V.O., from h.p., to be a Brigadier-General, to Command an Infantry Brigade, and is granted the temporary rank of Brigadier-General whilst so employed. Colonel (local Brigadier-General) E. T. Dickson, from Colonel on the Staff, to be a Major-General in the Army, to Command the Troops, West Africa. Colonel R. C. H. Lawrence, from an A.A.G., to be a Brigadier-General, to Command the Troops in Ceylon, and is granted the temporary rank of Brigadier-General whilst so employed. Colonel C. R. Townley, from Commanding the 12th Regimental District (the Suffolk Regiment), to be a Brigadier-General, to Command a grouped Regimental District, and is granted the temporary rank of Brigadier-General whilst so employed. Lieut.-Colonel and Brevet Colonel W. F. L. Lindsay, D.S.O., from h.p., to be a Staff Officer for Horse and Field Artillery, and is granted the substantive rank of Colonel in the Army.

COLOURS, 1680-84, FIRST OR ROYAL REGIMENT OF FOOT GUARDS; FIRST OR ROYAL REGIMENT OF FOOT; THIRD OR HOLLAND REGIMENT OF FOOT; AND FOURTH OR DUCHESS OF YORK AND ALBANY'S REGIMENT OF FOOT.

AUTHORITIES AND NOTES.

Shape, Size, etc.—See Chap. XXIII. on Regimental Economy in Colonel Walton's "History of the British Standing Army, 1660 to 1700."

The Regimental Colours forming the frontispiece and the following description, have been taken, by permission, from Colonel Walton's work.

Colouring, Devices, etc.—Nathan Brooks, 1684: the Holland Regiment flies the red cross bordered white in a green field. The Duchess of York and Albany's flies a red cross in a yellow field, bordered white, with rays as that of the Admiral's, with Her Royal Highness's cypher in the centre. The Admiral's is described as flying a red cross with rays of the sun issuing from each angle, or; The Royal Regiment flies St. Andrew's cross with thistle and crown circumscribed in the centre: "*Nemo me impune lacessit.*"

Dineley's Journal, temp. Charles II. (Kilkenny Arch. Ss., Vol. IV., 1862), gives an illustration with the colourings marked of the colours of the "Ancient Scotch," commanded by the Earl of Dumbarton, two

companies being then at Youghal. The regiment was in Ireland in 1661 and in 1679; in the latter year 4 companies embarked at Kinsale for Tangier, and 1679 was, therefore, doubtless the year in which the regiment was quartered about Kinsale and Youghal, and in which Mr. Dineley saw it. He entitles his drawing the "Flag of Douglas Regiment." If Mr. Dineley is correct in showing a flame on the Lieut.-Colonel's colour, it was peculiar to the First Foot; in all other regiments this was the Major's emblem.

Sandford, 1685, speaks thus of the "First Regiment of H.M.'s Foot Guards: "The colours or ensigns of this first regiment (24 in number) were of a large size, namely, two yards and three-quarters flying and two yards and a half on the ensign-staff. In the time of his late Majesty they had been distinguished by royal badges placed in the centre of each colour. The King's standard of his own company was of crimson taffeta embroidered with two 'C.C.'s' interlaced under the Imperial crown of gold. The Colonel's ensign was of white taffeta with a cross of crimson taffeta throughout (as were all the other ensigns), and differenced with an Imperial crown of gold only. The Lieut.-Colonel's with 'C.R.' in gold; the Major's with 'C.R.' and a pile wavy; the 1st Captain with the King's crest of gold; the 2nd Captain's with a golden rose; the 3rd, a golden fleur-de-lis; the 4th, a portcullis, gold; the 5th, a white rose within a sun, gold; the 6th, a thistle, gold, the stalk and leaves proper; the 7th, a harp, gold; the 8th, a golden dragon; the 9th, a white greyhound with a collar and ring, gold; the 10th, a sun of gold; the 11th, a white unicorn with horn, mane and hoofs, gold; the 12th, a white antelope with horns, gold, accolled with a coronet and chained, gold; the 13th, a white hart, attired, gorged with a coronet and chained, gold; 14th, a white falcon within a fetter-lock, gold; 15th, a rose and stalk of gold, with barbe and leaves of the same; 16th, a white swan gorged with a coronet and chained, gold; 17th, a white falcon, crowned, and grasping a sceptre in the pounces of the right foot, gold; 18th, a woodstock, erased and trunked, gold; 19th, a sword and sceptre in saltire, gold, except the blade, which was proper; 20th, the royal oak, gold. All which badges (except those of the Colonel and eldest Captain) were ensigned with Imperial crowns of gold. And the seniority of the Captains was distinguished by these numeral letters, to XX. inclusive, painted in black on the dexter canton of the first quarter."

Nathan Brooks, 1684, corresponds with the above account. Of the 1st Company he describes the King's crest, "which is a lion passant, gardant, crowned or, standing on a crown or."

Harleian Manuscripts, 5,752, Royal Warrant, 15th September, 1680, for payment for two Colours for "Our Own Regiment of Foot Guards," under Colonel John Russell, includes white and crimson taffeta, painting badges with fine gold, painting figures in oil "the distinction," two pairs of tassels and two 2-colour staves with "knot-heads." Also for one Colour to Earl of Mulgrave's Regiment includes 4 ells of green, 2 of white, and 2 of crimson, painting two figures of distinction in oil, and a pair of tassels. This is also found in W.O. Records, Misc. Bks. The crown and cypher are copied from the designs for Colours in Harleian Manuscripts 6,815, quoted in Chap. XXIII., Note 1,210.

Note.—The First Foot Guards have in possession what purports to be the original draft of the Colours of the regiment. The King's Colour shows in the drawing only one ℭ thus; but there is a second ↄ reversed, roughly made in pencil so as to form the cypher. Sir Philip Smith, when in command of the regiment happened to show me this,

and told me that it was a tradition in the regiment that the pencilled C reversed was by the hand of Charles II. himself, who said that it would thus form a more elegant cypher. Sir Philip was unable, he added, to say which was actually adopted, and I had the pleasure of producing my illustration with its authorities in support of the regimental tradition.

AUSTRIA-HUNGARY.—*Automobiles and Motor Bicycles for Army Service.*—On the 15th October last the Austrian Automobile Club organised a very instructive military automobile exercise, which proved most successful, in the terrain between Vienna, Traiskirchen (a little to the south of Vienna), and Tulin (on the Danube, and about 17 miles above Vienna). The *Danzer's Armee-Zeitung* gives details of this exercise, of which the following was the scheme :—

The cavalry division of a National Army, advancing from the south, recognises, on arriving at Purkersdorf, about 12 miles to the west of Vienna, the necessity of seizing the Tulin bridges as quickly as possible. The commander of the division, at about 8 a.m., at once despatched his motor bicycle detachment, accompanied by two automobiles carrying a machine gun and its ammunition, to that place. He then sent an order, by two orderlies mounted on motor cycles, to the approaching column (the head of which had just reached Traiskirchen) to send the motor bicycle detachments and all available machine guns to Tulin as quickly as possible.

The motor bicycle detachment of the cavalry division left Purkersdorf at 8 a.m. and arrived at Tulin at 8.59 a.m., in close column, and at a pace of 18 miles an hour. At 8.1 a.m. the two orderlies left Purkersdorf for Traiskirchen, where the first arrived at 8.52 a.m.—about 20 miles in 51 minutes. The order they carried put into motion : from Traiskirchen to Purkersdorf, a detachment consisting of 1 automobile carrying a machine gun, another automobile carrying ammunition, and an imaginary automobile carrying 50 riflemen ; and from Traiskirchen to Tulin, a detachment of motor bicyclists. The *Danzer's Armee-Zeitung* gives the hours of departure and arrival of the various units. It is, however, sufficient to mention that the forces brought by automobile were so far successful that a scouting detachment posted at Tulin to retain possession of the bridges over the Danube, received the following reinforcements : at 9 a.m., a machine gun with ammunition and about 30 rifles; at 10 a.m., a machine gun, without reserve ammunition ; at 10.30 a.m., 50 rifles; at 10.45 a.m., the reserve ammunition ; and, finally, at about 11 a.m., 50 rifles.

Orderlies mounted on horses, or in requisitioned wagons, allowing for the perfect transmission of orders, and for all favourable circumstances, could not have reached Tulin from Purkersdorf till about 10.30 a.m. or 11 a.m., and from Traiskirchen until late in the afternoon. It rained hard for several preceding days in the Wienerwald, which occasioned great difficulties to the motor bicyclists. The exercises demonstrated that it is very possible to employ the motor bicycle, especially as a support to cavalry driven back, and that automobiles attached to cavalry divisions for scouting service alone may eventually serve as means of transport.

Retention of Time-Expired Men with the Colours.—The military consequences of the political crisis, which is passing over the kingdom of Hungary, are already apparent. The normal period for the release of

the class having arrived without the Pesth Parliament having sanctioned the raising of the new contingent, it has been found necessary to retain all soldiers of the time-expired class, who are Hungarian subjects, with the colours; the regulations of the recruiting law, which fix the 31st December, only as the date of the termination of service in the Regular Army, allows the higher command to retain the men for three more months to keep the effectives up to strength, without having recourse to exceptional measures.

After this delay, if, as everything seems to predict, the contingent is still not voted, some steps will have to be taken. Most probably the same procedure will be followed, as was adopted two years ago, viz.: as regards the infantry, the time-expired men will be discharged and their places filled by men taken from the Ersatz Reserve; as regards the cavalry and special branches of the Service, the men whose time has expired, will be retained with the colours as reservists. The law lays down that "should special circumstances require," the men of the 1st Class Reserve may, in peace time, be called to serve in the Regular Army, who, nevertheless, should not be kept longer with it than their first year's period in the reserve; this regulation thus gives to the higher command, strictly speaking, the power of retaining time-expired men for yet another year with the colours. In 1904, in the mounted branches, they were retained in this manner until the 5th May, or 7¼ months longer than their usual date of discharge. As regards the Ersatz Reservists (men in excess of the enrolled contingent, usually obliged to only undergo a training period of 8 weeks, and then to be called out three times for 4 weeks each), those men of the three junior classes may also, "under special circumstances," be called out for service with the Regular Army, commencing with the most junior class, no limit being fixed by the law with regard to the duration of this exceptional service.

It will thus be seen that the military authorities are thoroughly empowered to make good the deficit of recruits which is taking place. The ministerial circular of the 4th August, which authorises the retention in the ranks of Hungarian old soldiers, provided amply for the enrolment of young men of the 1905, who enlisted voluntarily, without waiting to be compelled to do so by the regular recruiting operations; in 1903 the number of these volunteers was fairly high, and although some Hungarian politicians have recently denied that the military authorities had the right to enroll them, it is impossible to see what serious reason there was to prevent them from doing so. It is, however, probable that the number of these voluntary enlistments will not be so large as in 1903; the political situation has completely changed during the last two years; then it was a small obstructive minority, generally disapproved by the country, which caused legislative impotence, and administrative disorder; now it is a strong majority, which is opposed to the vote and the levy of the contingent; it is natural that young men, liable to be called to the colours, feel the influence of this change of ideas and refuse to voluntarily second the Government action. Further, in 1904, it was decided that the military service of the recruits, only enrolled in the middle of May, should be reckoned as though it had commenced at the usual date, viz.: during the preceding October. At the present time, when they foresee, far more than two years ago, the prolongation of the political crisis, it would require a remarkable amount of sacrifice on the part of the young men of the Class to give an extra military service of several months when they can wait quietly till they are called up in due course.

Concurrently with the suspension of the recruiting operations in Hungary, the War Minister ordered, throughout the Monarchy, the abolition of the inspection of recruits' lists which habitually takes place in the autumn. The object of this annual inspection is the revision of the recruiting registers, at the seat of the civil authority, by a representative of that authority, assisted by a representative of the Army; all Reservists who have not been called to the colours during the year must, as a rule, present themselves before this inspection. Its abolition in 1905 is partially due to the Hungarian crisis; there is a fear, on the one hand, that on account of the bad disposition of the municipal authorities, the inspection could not be carried out under favourable conditions; and on the other hand, that the meetings might give rise to riotous manifestations and disorders.—*Revue du Cercle Militaire* and *Revue Militaire des Armées Etrangères.*

FRANCE.—*Military Training.*—On the 12th October last the War Minister issued the following circular on the subject of training:—

Preparation for war being the exclusive object of military training, and the conditions of the modern battle giving a capital importance to the personal qualities of the soldier, it follows, more than ever, that particular pains should be taken with individual training.

Combined training cannot, moreover, be profitably commenced before the recruit is sufficiently accustomed to military discipline, before he is sufficiently broken in, and until he possesses that professional knowledge indispensable for a soldier acting independently. This result will be obtained by giving primary importance to education and training in detail; this will be carried out quietly and methodically, according to rational progression, the development of which will be secured by the captain taking into consideration the climate, local conditions, and the results successively obtained. This progression, therefore, will only lay down the general lines to be followed, and the daily examination of the training will allow the company commander to regulate the work of to-morrow by the progress made to-day. It should not be lost sight of that the work of acclimatising and training to which the constitution of the young soldier is subjected, requires a certain amount of careful handling, especially at the commencement. Overwork is not only prejudicial to the health of the man, it also has an unfavourable effect on his *moral*, and, in consequence, on discipline; as a matter of fact, it retards instead of accelerating the progress of training. The programme, therefore, should not be absolutely rigidly laid down, whilst, at the same time, it should ensure the completion of the training in detail so that the man can take his place in the ranks at the date fixed.

Instruction in detail, being the basis of military training, should be carried out with precision and energy, but it would be a grave error to attempt to at once obtain precision and vigour in carrying out the movements. This can only be arrived at progressively by stimulating zeal, by encouragement, and by short but frequent rests.

Instructors should set an example by the correctness of their demeanour and of their dress, and try to be both very kind and very energetic. They should be made to understand that kindness by no means implies weakness, and that they can be energetic without being severe. The most necessary quality with them must, however, be patience, especially at the commencement. They should be watched to see that they refrain from annoying the recruits, and from accompanying their observations with threats of punishment. By such means it is certain that

more rapid results will be obtained, for roughness merely disgusts the men, and causes the Instructor to lose influence.

The exercises of the same drill should always be varied so as to interest the recruits, and to avoid lassitude and tediousness; this is one of the essential conditions of progress. Except in cases of absolute impossibility, the training should always be carried out outside the barracks. Work should not commence too early in the morning, and care should be taken to avoid chills, which might be caused by sudden stoppages and complete rest during exercises entailing violent physical exertion. When a man is indisposed on account of the cold, he should be made to take a hot drink. With this object the hospital should always have hot tea ready at the disposal of the sick. Should the manœuvre ground be too far from the barracks, the officer superintending the drills should if necessary make the necessary advance out of his own pocket, which will be at once paid back from the funds of the hospital.

The training of the inferior cadres will be carried out simultaneously with that of the troops, frequent recourse being had to exercises on the map, and especially to cadre exercises, in which everyone will be given the duties of his rank during the first months. These cadre exercises, which will at first be carried out by company, squadron, or battery, will tend to minimise the inconveniences resulting in certain garrisons from the lack of practicable ground for troops. The object to be attained will be to habituate non-commissioned officers and officers to make rapid decisions, to give clear and concise orders, and to make judicious use of the ground. Rambling statements will be carefully discouraged. Advantage will be taken of the exercises to accustom the cadres to take progressively, during the same manœuvre, the command of a superior rank. These exercises should be practised later, from time to time, during the manœuvres with troops. The cadre exercises will be practised before the commencement of the training; they will be allotted a number of varying drills according to the exigencies of the instruction in detail; but from the commencement of the company, squadron, or battery school, they will be carried out weekly.

In short, from the commencement of the training, all military commanders should concentrate their efforts upon the following points:—To direct instruction in accordance with scientific training based on the rational use and management of human capabilities; to transform the young men of the contingent into keen and smart soldiers fit to both morally and physically support the fatigues and privations of war; to maintain the cadres at the height of efficiency in peace and in war; above all not to lose sight that one of the essential objects of military service imposed successively on every citizen being to form Reservists soundly trained, and who will be thoroughly grounded by methodical preparatory training with a view to war, everything should be subordinated to this in the preparatory training in the instruction of recruits.—*Revue du Cercle Militaire.*

Russia.—*Lessons of the War: Artillery Action.*—The long range, the rapidity of fire of the modern gun, its capacity for operating in narrow positions, and the small effect produced on earthworks and invisible objectives are the *data* which at the present time regulate the employment of artillery. All troops showing themselves in the zone of shrapnel action may suffer terrible losses in a few minutes, and artillery can nowadays operate at a range of over 5 kilometres. On the other hand, on account of its small explosive force, it causes no damage whatever to material objects. As regards common percussion shell,

its sphere of action is extremely limited on account of the difficulty of obtaining sufficient precision. Thus the essential task of artillery is the destruction of living objects. The habitual method of firing is by *rafale*[1] fire. There is no longer any artillery duel in the sense understood by this expression. A battery on which fire is directed is compelled to cease firing; when the enemy has fired some *rafales* on it, he stops to avoid waste of ammunition, and either ceases fire altogether or changes to deliberate fire. It is therefore impossible to annihilate artillery whose gunners are under shelter in trenches or behind shields. The object of the artillery fight is to hold the hostile artillery under the constant threat of *rafale* fire to prevent it from firing on the infantry or on any other moving objects. Very narrow positions, a good preparation for opening of fire, and a judicious organisation of observation make it permissible to retain several batteries available to act against the hostile infantry, or to concentrate their fire on a selected point of attack. Long range very greatly assists the concentration of fire, whilst at the same time making it unnecessary to mass the artillery in long continuous lines, which the enemy would quickly discover. There is all the advantage of distributing the batteries under shelter in the terrain and of spoiling the enemy's aim; in addition, this reasoned breaking up of batteries allows all portions of the ground in front and on the flanks to be better swept by fire.

Artillery can do nothing without a thoroughly well-organised observation service, conducted by officers and gunners personally scouting along the whole front and gleaning information gathered by the other branches of the Service; the telephone has, consequently, become indispensable to artillery for the transmission of information. Staffs should remember to forward all the information which comes to them on to the artillery. The Japanese organised their observation service to a most remarkable degree of efficiency, yet they nevertheless frequently fired on unoccupied zones. Commanders of batteries should see as much of the ground as possible so as to be able to show initiative, and even batteries themselves should see the country round. "The shields protecting them against shrapnel would in such cases render immense service." But artillery should be able to fire masked, and that often causes commanders of batteries or brigade divisions to be at a distance from their commands, when they can only communicate with them by telephone. In any case, all the terrain in front of the batteries must be seen by the battery observers.

To emerge from a zone known to the enemy and under his hot fire, recourse must be frequently had to small battery changes of position; these movements should be entirely carried out by hand and without being seen, otherwise they are useless. Changes of position in order to approach the objective are only permissible when one is over 3,500 metres from it. It is better for artillery to prepare the attack remaining on positions already occupied, so that the firing may not be interrupted. It would be better that the batteries advancing should be taken from the reserve, in order that they might, if possible, attempt to take the enemy in flank. When it is possible, naturally the position on which the attack must be prepared should be approached as close

[1] A term recently introduced into the French Artillery Regulations; is apparently intended to apply to a fire from a Q.F. battery maintained by all the guns on a given object, but not by word of command, with the greatest rapidity possible, at the same range, on an unprotected enemy on a front of about 150 yards.

as possible, as this will create a great impression; but this is not indispensable, nor is it always possible. When the enemy gives way, the artillery must be brought as quickly as possible on to the conquered position.

Firing over infantry is inevitable and frequent. It alone permits the artillery to avoid assembling in vulnerable masses; to utilise the whole range of the gun in concentrating the fire of the various batteries on the same objective, and to cause the artillery to be a constant menace to the adversary's movements. The commander of the troops distributes his artillery, points out to it the positions to occupy, and the general objectives; he keeps the artillery commander informed of the fortunes of the fight, gives him new duties, etc. The artillery commander distributes the various duties amongst his batteries, organises a system of observation along the whole front and flanks of his radius of action, so that he may be informed without delay of the appearance of favourable objectives. He superintends the supply of ammunition.

On visible objectives the most efficacious method of firing is that of the *rafale* of shrapnel. When the Japanese wished to reach masked objectives they directed a slow fire on the ground behind the position, preferably on points where they supposed the reserves, limbers, etc., to be, and fired a *rafale* as soon as they detected the slightest movement. The Russians, when firing against material obstacles, such as villages, trenches, etc., simultaneously employed percussion and time-fuse shrapnel.[1] When they were able to do so they combined the shrapnel fire from field guns with common shell fire from howitzers. The Japanese fired common and shrapnel shell simultaneously or alternately; the common shell to cause movement behind shelter and the shrapnel to, then, inflict losses.

The report is of opinion that batteries of 8 guns should be given up, and that 6 or even 4 guns per battery are sufficient. "If it is properly provided with ammunition, a battery of 4 guns can carry out all the duties usually confided to an 8-gun battery, for it was hardly ever necessary to resort to the maximum rapidity of fire. The 4-gun battery is less cumbersome and more mobile, and can adapt itself better to the ground." Good telemetres, good battery telescopes, and good field glasses are indispensable.

Lessons of the War: The Russian Soldier.—The *Ruskii Invalid* continues its series of articles on the lessons of the Russo-Japanese War, and the present one deals with the Russian soldier himself:—

"In spite of the constant retreats of the Russians before the Japanese, in spite of the failure of the Russian offensive in October, 1904, and in spite of their evacuation of strongly fortified positions, the article declares that had any corps or regiment been asked if it had been beaten, it would have denied it to a man. This was the opinion of the majority of the officers, and was undoubtedly that of the mass of the men.

"Our soldier does not deserve any reproaches. He bore with inexhaustible energy all the fatigues of the campaign, the great heat, the awful mud, and the bitter cold; he lacked sleep, remaining firing for ten or twelve days at a time, and never ceased to remain capable of fighting. After having lost all his officers, in the absence of all proper supervision (at Mukden on the

[1] It must be remembered that the Russians had no common shell for field guns.

10th March, 1905), he placed himself voluntarily under the orders of the first officer he met, and was ready to resume the fight. During and after the sternest fights, the soldier did not lose his coolness—he never lost his head; and in spite of reverses he never ceased to look upon himself as a better man than the Japanese, attributing his reverses solely to the fact of having been ordered to retire. The men of the Regular Army proved themselves greatly superior to reservists in action. Detachments of reinforcements coming from depôts showed themselves to be but little trained and still less educated, and much had to be done to make them fit to join the companies. It must be laid down as a rule that depôt cadres should not be composed of pensioners, but of absolutely competent and energetic officers and of efficient non-commissioned officers, who thoroughly know their work. Depôt battalions should only furnish reinforcements to their own regiment. The reserve officers, unaccustomed for the most part to service with troops, cannot be sufficiently up to their work, and should not be entrusted with the supervision of the preparation of the reservists. This object is of far too great importance to leave to incompetent hands.

"The Russian soldier is accused of slowness, of a lack of desire to learn, and of want of initiative. These accusations are, in part, well founded, and the cause lies, on the one hand, in the lack of general instruction to the whole, and on the other, to the method of military education and training employed. The soldier himself is, nevertheless, naturally intelligent, capable of imagination, and shrewd enough to understand and carry out almost anything that is clearly explained to him. The non-commissioned officer is of the same stock as the private soldier, and is trained on the same system. Naturally he has the same faults, and is frequently unfit to take the place of the officer. But our officer who, in this war, as in preceding ones, has shown a high example of devotion, of indisputable gallantry and of love of duty, has not escaped accusations of want of initiative, of not comprehending situations, of a lack of decision and perception. The causes of these defects lie in defective general instruction, especially as regards military matters; and as resulting therefrom, from an insufficiency and want of grasp of the principles of military education and training.

"A second point brought to notice by the war is the insufficiency in the number of officers. On account of the long duration of the battles and the considerable losses in officers, this question becomes a very acute one if one reflects that few junior reserve officers or non-commissioned officer ensign candidates, as a rule, are capable of replacing the officers; the former because they are not sufficiently animated by the same spirit as the corps of officers, and are not well acquainted with the regulations; the latter because they are not sufficiently trained to it, and lack authority in the eyes of the soldiers. As regards reserve officers, a higher standard of military training must be exacted from them. They must be called out every three or four years, or oftener, if they prove incompetent. In the field they should only be utilised in the units to which they belong, and commanded by Regular officers. When they are left to themselves on duty on the lines of communication, they cannot be sufficiently supervised."

The war has also brought to the front the non-commissioned officer question: "It is absolutely necessary that their training, with a view to making them competent to replace officers, should be of a more thorough nature. It is not rare to find amongst them excellent fellows capable of leading small bodies. But the raising of the capabilities of our non-commissioned

officers can only be solved by the improvement in the education of the nation. The natural qualities of the Russian, both in the educated classes as in the masses, are such as would greatly facilitate this work and accelerate the results; these qualities are adequate intelligence, natural sagacity, a spirit of enquiry, sincerity, and confidence."

In brief, all the cadres should have a more extended training. Only a knowledge of one's profession can ensure judgment, shrewdness, and reasoned initiative. "It has always been indispensable, but at the present time, with such vast Armies, the vital importance of training has still further increased. In our days the success of operations, in an enormous degree, depends on the intelligent and conscientious initiative of subordinate commanders. Their incapacity to realise the situation renders impotent the most brilliant conceptions of the commander-in-chief."

Lessons of the War: Subsistence.—The daily ration of 1 lb. of meat per day proved insufficient. It is of advantage to divide it into two meals: ¾ lb. for dinner, and ¼ lb. for supper. The frozen meat, coming from Siberia, and issued by the commissariat, was excellent, and even preferable in quality to the fresh meat obtained on the spot. When the flour is of good quality and properly sifted, the daily bread ration per man may be fixed at 2¼ and even at 2 lbs. It would be as well if the biscuit was baked in a similar form to ship's biscuit, which are less liable to break up and get dirty. The tea and oatmeal rations were sufficient. It would be well, so as to give some taste to the rations, to include 10 head of onions, 10 cloves of garlic, and 4 to 5 pods of red pepper, per 100 men, in the daily rations.

The bread was made sometimes by the troops themselves, sometimes by the commissariat, and, in the latter case, by means of the mobile field bakeries. The commissariat bread was not always of good quality. "Its issue in good time greatly depended on the personality of the commissariat officer of the army corps; when there was less red tape and more zeal, there was always bread forthcoming." Whilst certain army corps lacked bread, others had always enough over to give to neighbouring corps. Regiments could only bake bread themselves when they remained long enough in a place, and if the commissariat provided them regularly with flour. The bread thus baked by corps was always of better quality than that issued by the commissariat.

The field kitchens acted perfectly, and rendered the greatest service. "With fights lasting a very considerable time, as was the case in Manchuria, it was only by means of the field kitchens that the possibility of giving the men dinner and supper at the right time, was ensured. Thanks to them it was possible to distribute hot meals to the men, even to those in the firing line, during a fight." The mobile kitchens were brought up as far as the reserves or supports, and the food was transferred from them to small casks which were carried on further by donkeys. On fighting days, one hot meal only was cooked, consisting of from 1 lb. to 1½ lbs. of meat per man, which was issued at night fall. The strength of the kitchens was fully proved as after a year's continual use only small repairs were necessary. "On good roads the 4-wheeled kitchens are easily drawn by 2 horses, when the roads were bad the number of horses had to be increased or 2-wheeled vehicles used. It is beyond discussion that mobile kitchens should be made regulation, one being issued to every company or administrative unit, with one in reserve."

Experiments were made from time to time, in divisions, in preparing the food in single camp kettles, but this practice should only be regarded

as an occasionally necessary evil. It leads to marauding by the men in order to procure wood, vegetables, etc.; it renders continual supervision necessary in order that the men may really cook the food; and finally it requires far more wood and takes up far greater time. Single camp kettles were principally used for the preparation of tea.

The horses did very well on forage substitutes, and these substitutes were not dangerous if given gradually; millet, as well as its straw, were consumed without inconvenience. The regulation rations of hay and oats, as a rule, proved sufficient. The millet straw should be given preferably chopped up, and the horse eats it more readily if sprinkled with a little salt.

"Thanks to the fact that the harvest had not been gathered in Manchuria in 1904, the Russian troops were able to gather considerable resources from the country, which greatly facilitated the question of supplies. Thus for four months the Army was able to draw supplies on the spot between Tieling and Mukden, and for another two months from the zone occupied after the evacuation of Mukden. As a matter of fact, with a better administrative organisation the resources might have lasted for a considerably longer period. Requisitions with the aid of the local civilian authorities were not resorted to by us on account of our ignorance of the Chinese language, of lack of confidence on the part of the inhabitants, the knavery of the interpreters, and the powerlessness of the Chinese authorities."

In pronouncing judgment on the commissariat service, account should be taken of the exceptional difficulties under which it laboured. "It should be admitted without question that nothing should be brought up from the rear but what is indispensable and impossible to procure on the spot. But as the corps were not in a state to procure necessities by their own exertions, it resulted in the necessity of considerable effort on the part of the administrative departments, and especially on the part of commissariat officers of army corps. The results obtained are a certificate of the value of the working of the commissariat, which should free itself from all red tape methods. Corps did their utmost to facilitate the work of the commissariat. Regimental transports had frequently to make marches of from 23 to 35 miles to obtain supplies, and it was not their fault if sometimes, after having been sent for by the commissariat officer, they had to return empty. It sometimes happened that articles actually in store were refused to corps for reasons of mere formality, such as want of an official stamp, non-agreement with the daily state, etc., and that those stores were frequently afterwards burnt on account of a retreat." Instead of, as is now the case in the Russian Army, recruiting the commissariat officers from those of the combatant branches, the Report is of opinion that a considerable improvement would result to the *personnel* if it were "recruited from amongst functionaries of larger views, and who belonged to that department."

Technical Matériel of the Engineers.—The same number of the *Ruskii Invalid* deals with this subject from the experiences gained in the recent war: The telephone rendered the very greatest service, and acted remarkably well. The training of telephonists presented no difficulties, either in the infantry or in the artillery. Experience has shown that corps cannot be left to provide themselves with telephones at their own cost. They should all be of one pattern, and be the property of the Government; 3 or 4 stations and about 5½ miles of cable per regiment; 3 or 4 stations and about 3 miles of cable per brigade, division, or isolated

batteries. A telegraph company, capable of laying down about 43 miles of line, should exist in every army corps; it would suffice for its requirements, provided it were held entirely at the disposal of the army corps commander. It has frequently occurred that the army staffs have taken away their telegraphists from army corps.

The Russian troops were inadequately provided with telephones during this war, although nearly all regiments had bought them from their own funds. The telephone is absolutely indispensable for the interior requirements of corps and for linking them with their own and the neighbouring brigades and divisions. It is not a good thing that they should be too liberally given to the higher authorities, as the latter have then a tendency to wish to know and to direct everything, frequently giving contradictory orders, and encroaching on the initiative of their subordinates.

There should be a captive balloon per army corps, and it is essential to always have at hand the necessary requisites for inflating it. At the beginning of March, in the middle of the battle of Mukden, a balloon battalion had to cease work for want of gas. Otherwise the balloons rendered good service, and observation from them was easy.

The Russians did not use search-lights throughout their winter stay on the Sha-ho. There were several mounted on wagons at the station of Khau-chen-pou, but they were not under the orders of the commander of that sector, and rendered no service whatever. These engines should be under the orders of the army corps or division commanders of the sector in which they are placed. The Japanese used search-lights during nearly the whole of the dark winter nights, and thus greatly interfered both with the works on the Russian positions and the enterprises of Russian Volunteers.

Casualties in the Russian Army.—The following extracts are taken from the report of Colonel John Van R. Hoff, Medical Department, military attaché with the Russian Armies, Manchuria:—

No. I.—The movement of sickness and wastage (from death and disability) among all grades of the (Russian) Manchurian field armies and services in rear of the same due to wounds and disease from 28th January (10th February), 1904, to 1st September (14th), 1905, exclusive, of Port Arthur is as follows:—

Wounded	Sick.		
3,393	7,445	Officers.	Sent to hospital.
110,369	230,027	Men.	,, ,,
54	14	Officers.	*From wounds and sickness.
479	185	Men.	,, ,,
	22	Officers.	*From sudden death.
	431	Men.	,, ,,
147	125	Officers.	Died in hospital.
2,861	4,665	Men.	,, ,,
8,237	16,018	Men.	Discharged for disability.
1,755	3,711	Officers.	Returned to duty.
57,037	111,142	Men.	,, ,,
1,461	2,585	Officers.	Evacuated (transferred).
41,635	74,713	Men.	,, ,,
30	1,024	Officers.	Remaining in hospital.
378	22,664	Men.	,, ,,
214	825	Men.	Remaining in convalescent institutions.

*Died with organisation.

The foregoing table includes every case that appears on the hospital registers of the Armies, for which the Medical Department became responsible, together with 1,185 cases of sudden death, making a grand total of 352,412 cases. Of these, 8,983 died, 24,255 were discharged for disability, 120,394 were transferred to hospitals west of Lake Baikal, 173,645 recovered, and 25,135 remained under treatment. Total, 352,412.

I have no official writing as yet showing the mortality among the cases "transferred." This, with additional statistics, was promised, but I was told that the total mortality from disease was 13,830. Deducting the 5,442 deaths accounted for in the foregoing table from the number given by the statistical officer, and there remain 13,388 deaths which must have occurred among those "transferred"—a rate of 173 per thousand. As only serious cases were as a rule sent away from the Army, this rate, though high, may be regarded as not excessive. This deduction is, of course, open to correction.

*No. II.—*Losses (Russian Army) during the war by month.*

	Killed.		Wounded and contused.		Died of Wounds.		Missing.	
1904.	O.	M.	O.	M.	O.	M.	O.	M.
February	—	4	—	2	—	—	—	—
March	1	8	4	16	—	5	1	3
April	26	623	50	1,130	—	12	4	474
May...	4	56	16	285	2	31	6	71
June	19	668	133	2,926	2	73	23	1,166
July	27	974	189	5,350	12	113	19	928
August	91	2,243	477	15,379	26	326	18	1,957
September	107	2,433	474	16,847	24	232	23	2,308
October	83	1,842	406	13,511	22	530	18	2,526
November	2	98	21	708	6	91	1	28
December	11	140	59	704	12	59	—	63
1905.								
January	49	1,670	378	10,746	23	212	25	1,277
February	233	7,638	1,455	47,272	35	640	282	28,156
March	7	181	40	1,165	20	659	—	225
April	—	103	13	483	1	206	1	58
May...	4	68	10	341	7	88	—	28
June	3	51	24	405	7	41	—	40
July	—	—	11	287	3	16	—	—
August	—	—	19	150	—	6	—	—
			(1)	(2)		—		
Total	667	18,800	3,779	117,707	201	3,340	421	39,308

*Exclusive of Port Arthur; (1) Of these officers 386 remained on duty; (2) Of these men, 7,345 remained on duty.

The foregoing table accounts for 184,223 cases, of which 19,467 were known to be killed and 3,541 died of wounds. Total: Killed, 23,008; wounded, 121,486; missing, 39,729.

The extraordinarily large proportion of missing is accounted for by the fact that the Russians withdrew from every battle-field and left their dead to be buried by the Japanese, and as there were no means of identifying the Russian dead, there was nothing for the Japanese to do but bury them as "unknown," and for the Russians to carry them as "missing." It is not to be presumed that any considerable number of the Russians deserted to the enemy. They could hardly expect a hospitable reception from the Chinese, and they could not get home, so it is safe to assume that practically all "missing" Russians were buried on the battle-field.

As this fact is not susceptible of absolute proof in making my estimate of "killed," I shall have to depend upon the statistics of other wars to reach a reasonable basis of calculation; but before proceeding to a discussion of this question I will submit the following table of Russian losses by battles :—

Place and date.	Killed. O.	Killed. M.	Wounded and contused. O.	Wounded and contused. M.	Missing. O.	Missing. M.
Turencheng—						
April 17-18, '04	28	564	38	1,081	6	679
Wafangkzu—						
May 31—June 1-2, '04...	18	459	85	2,155	10	754
Siao Kao-lin—						
July 4-6, '04	8	215	37	1,069	2	224
Tashichiao—						
July 10-11, '04	4	141	30	646	3	107
Yantselinsk Pass—						
July 18, '04	10	349	42	1,192	2	219
Liao-Yang—						
August 11, '04	87	2,027	414	12,486	10	1,461
Sha-ho—						
Sept. 25—Oct. 5, '04 ...	190	4,894	861	29,531	35	5,838
Sandepas—						
January 12-16, '05 ...	49	1,670	378	10,746	25	1,277
Mukden—						
Feb. 11—March 1, '05	233	7,638	1,455	47,272	282	28,156
Lesser battles and skir.—	42	843	439	11,529	46	593
Total	667	18,800	3,779	117,707	421	39,308

The "strength" is given on the authority of General Kuropatkin, who stated the number of bayonets as follows : Liao-Yang, 135,000; Sha-ho, 145,000; Mukden, 290,000. I have added 16 per cent. to these numbers to cover the other arms engaged, making a total of 661,200, viz., Liao-Yang, 156,000; Sha-ho, 168,200; Mukden, 336,400.

Assuming that the proportionate losses at the battles of Liao-Yang, Sha-ho, and Mukden are a fair index to the proportionate losses in other battles, it is not difficult to deduce the real strength of the Russian Army in every battle, nor to arrive at a reasonable conclusion as to proportionate losses. The total casualties in the specified battles are 21·45 per cent. of the strength given by Kuropatkin. Of this total, 10·5 per cent. were killed, 64·5 per cent. were wounded, and 25 per cent. missing, or 1 killed to 2·5 missing to 6·5 wounded.

The statistics of the German Army in their war of 1870 show a loss of but 4·12 per cent. of the total force engaged, of which 0·75 were killed, 2·83 wounded, and 0·54 missing, or, roughly, 1 missing to 1·5 killed to 5·66 wounded. If, then, we assume the German figures as proportionately applicable to the Russian Army, we must take from the "missing" and add to the "killed" enough to make the proportion of 1 to 1·5. By reference to table No. 1 it will be seen that 3,541 cases of wounds died in hospital, and it is more than likely that a proportionate number of the 13,388 "transferred" cases died from wounds: but of these I have no record, and will leave them out of consideration in this report. Add the 3,541 wounded cases to the 19,467 killed and the total dead from the

"legitimate results of war" is 23,008, or killed and missing, 62,737, of which we may assume from German experience that 37,642 were killed, making a total of 37,642 killed, 121,486 wounded, and 25,095 missing; in all, 184,223.

I find it difficult to believe—assuming all the Russian prisoners in the hands of the Japanese to have been identified and reported, which I understand is the case—that 25,095 "missing" Russians are still in the land of the living. Yet this seems to be the only acceptable basis on which to work, and I will therefore adopt it.

By reference to table No. 1 and comments thereon, it will be seen that up to 1st-14th September, 1905, 18,830 soldiers had died from disease, which is almost exactly one to two dead from battle injuries. It may be safely assumed that this proportion will not vary by more than a small fraction when the final statistics are compiled, and it stands as the best sanitary record up to this war.

It may be of interest to compare these statistics with those of the Japanese Army given by Major Seaman in the *Review of Reviews*, November, 1905, p. 584 : 4th February to May, 1905—43,892 killed, 145,527 wounded; total, 189,419; died in hospital from wounds, 9,054; from disease, 11,992; total deaths from wounds, 52,946; from disease, 11,992. The Russian losses by arms of the Service were as follows :—

	Killed.		Wounded and contused.		Missing.		
Arm.	O.	M.	O.	M.	O.	M.	A.
Infantry	602	17,873	3,246	111,309	379	37,789	81·4
Cavalry	20	366	159	2,060	20	395	5
Artillery	29	427	310	3,671	15	748	7
Engineers	4	34	42	282	2	126	3
Frontier Guard	10	98	15	342	3	196	0·6
Other Services	2	2	7	43	2	54	
Total	667	18,800	3,779	117,707	421	39,308	

A, proportional strength of fighting effectives; per cent.

"Other services" embrace the non-combatant branches, the strength of which is 10 per cent. of the fighting effectives.

The military population which furnished the foregoing statistics has been variously estimated and generally over-rated until after Mukden, since which battle it has probably been under-estimated by all except the two most interested nations. I have no statistics as to the Russian strength before the date of my arrival in the Far East, but I have the unofficial statement of General Kuropatkin, which may be accepted as authoritative. He says—the reasons are not here necessary to enumerate—that "in spite of our (Russian) apparent superiority in number of battalions, we were always numerically inferior to the enemy. Thus at Liao-Yang we had altogether 135,000 *bayonets*, at Sha-Ho 145,000 *bayonets*, and at Mukden between 275,000 and 290,000—the exact figure has not yet been determined. In spite of this we took the offensive from Mukden, well knowing that the enemy was superior in number." Add to the foregoing 16 per cent. to cover the other combatant forces present in these battles, and we find that the Russians had at Liao-Yang 156,600; Sha-ho, 168,200; Mukden, 336,400. On 20th August, 1905, the combatant strength east of Baikal was 870,000. On the 2nd October, 1905, the total strength of the Russian forces east of Baikal was: In the field, 729,000; Etope and Nav, 112,000; Pre-Amur District, 116,000; *en route* from Russia, 80,000;

total, 1,037,000; add 10 per cent. for non-combatant services in the theatre of war—95,700=1,132,700.

From these statistics it would appear that during the year 1905 Russia sent to the Far East nearly 800,000 soldiers, or an average of 100,000 per month, and at the time of the declaration of peace had assembled an army numbering more than 1,100,000 men, almost every one of whom had been transported over a single track railway for more than 5,000 miles. In comparison with this, the logistics of all previous military undertakings pale into insignificance. — *La France Militaire* and *U.S. Army and Navy Journal.*

CORRESPONDENCE AND REPLIES TO QUERIES.

"THE SECOND AFGHAN WAR." BY COLONEL HANNA.

To the Editor of the JOURNAL OF THE ROYAL UNITED SERVICE INSTITUTION.

Sir,—In reading this book one cannot help being struck by its superabundant wealth of adverse criticism. Nearly everything done by us, political or military, seems to have been wrong. Sometimes the author states what should have been done, in his opinion; in the case of the Peiwar Kotal, which I propose to single out in this letter, Colonel Hanna seems to propose action, or, rather, inaction, of something like the kind that led to Maiwand.

Let it be said first that Colonel Hanna has most of the facts; that his description of the topography of the Peiwar Kotal and its surroundings is decently clear. The elevation given of the hills about the place is illuminating; but it is a pity he did not mark on the *plan* the position of the "Devil's Punch Bowl" and the "Crow's Nest," for the narrative of the march that brought Cobbe, with the 5th and 29th P.I., into the "Bowl" is not of the clearest.

I shall assume for brevity's sake that the readers of this letter are either well acquainted with the action under review or that they will read it in Hanna's book, or in Shadbolt's, or in Lord Roberts's, *i.e.*, I shall not indulge in a regular chronicle of the proceedings.

Our author, having brought his narrative up to 28th November, 1878, and described the "reconnaissance in force" of that day, thus "observes":—"General Roberts, in his despatch of 5th December, calls the operations of the 28th November a reconnaissance in force; but, looking carefully at all the events of the day, and taking special note of the order given to Cobbe to attack and follow up the enemy, it is impossible to accord to them this misleading name. It is contrary to all military precedent for a commander to make a reconnaissance with the whole of his force, including guns on elephants; and no general would direct his subordinates at the end of a 21-miles march to attack with hungry and exhausted men an unknown enemy in a position of extraordinary strength, except in the hope of snatching a success." This is criticism gone mad.

General Roberts had reiterated reports from spies that the Afghans had failed to get their guns up the Kotal; he had sound justification for believing that the Afghans reposed great faith in the power of their artillery, which was manned by excellently trained gunners and plentifully

supplied with ammunition. The general can therefore hardly be blamed if he held there was an off-chance of the enemy failing to hold the Kotal tenaciously, if it proved to be true that their guns were still bogged at the foot of the pass. Let Colonel Hanna imagine what would have been the commander's feelings if, having not pushed forward Cobbe and Thelwall, he had afterwards learned that on that night the enemy had extricated their artillery and got it into position.

The "misleading name" criticism strikes the writer as nonsense. In what sense was the reconnaissance being made "with the whole of his force"? Cobbe's column—the left of the advanced guard—comprised a squadron, 2 mountain guns, and half a native regiment; Thelwall's—the right of the advanced guard—was of the same strength. These were not sufficient for a reconnaissance in force; it was eminently advisable to accept the chance of killing two birds with one stone, viz.: to get the guns and to press the pursuit of information as far as possible. The troops were marching light, with only seven days' supplies, and time was important. So the main body sent forward out of its 7 battalions and 4 guns, 2 battalions that followed up Cobbe and 2 that joined Thelwall. Cobbe certainly had to be extricated from an awkward situation in the "Punch Bowl"; but two important things had been learned: the guns were not lost to the enemy, and the Kotal and its vicinity looked like the main Afghan position.

Is the name "misleading" because the whole force was in motion? Should General Roberts have halted the main body at Habib Kila or Peiwar, in order that he might call the movement a reconnaissance in force "in accordance with all military precedent"? Has nobody ever made a reconnaissance in force with the possibility of its becoming a battle? Cobbe was ordered to seize a village about a mile from the pass and to follow up closely any body of troops he might come across; in what other way can orders be given to the leading party of a reconnaissance in force? The duty of such a party is to push aside moderate opposition, and only give up the advance when something too formidable is met. Cobbe missed the village and got into the "Punch Bowl," it is true, and had to be extricated with some show of force; but what detachment, especially in such a country, is safe from accidents?

The camp chosen for that night *was* in a dangerous spot, but the force was certainly by now "exhausted and hungry," and to retreat immediately after an adverse skirmish from the presence of an Afghan foe in a country of wild ravines, inhabited by wilder tribes, who were simply waiting to see which side would win, would that have been wise? Safety from being overlooked could only have been obtained by retreating several miles towards Kuram; the retreating troops would have met, and would have had to turn back, a long line of scratch transport. In the gathering darkness the confusion would have been dreadful; the native transport drivers, seeing retreat, would have lost what little heart they had for the business. Many of those stores would never have reached the chosen camp, and the neighbouring hillmen would have had a good time.

Colonel Hanna quotes in a footnote from Major Colquhoun's "With the Kuram Field Force" on this matter of the camp. The hypotheses that lead up to disaster are too many to be very convincing:—"If, knowing the range as they did (*sic*), and being in an inaccessible position, they had waited till the camp was pitched at Turrai, and had commenced to shell it with all their mountain guns after dark had set in, ... Nothing could have been done except to withdraw from the camp. . . .

The camp, with all the bedding and baggage, might have been burned down . . . ." Now there is nothing to show that the Afghans had more than one mountain gun within range of the camp, the nights were dark, and the Afghans were not prone to night work. "Nothing could have been done?" Have we no Goorkhas who could be trusted to steal up in the dark and deal with that gun, whose flashes would be plainly visible?

The front of the Peiwar Kotal position having thus been compelled to yield some of its secrets, more extensive reconnaissance was initiated. Colonel Perkins, R.E., was entrusted with the exploration of the spur that apparently sprang from the Peiwar ridge on the proper left of the pass and pushed out along the east side of the valley leading from the camp to the pass. It was found that this spur was not continuous, but was separated from the main ridge by a deep valley (*vide* Map, Plate 2).

To Colonel J. H. Gordon was allotted the searching out of the S.E. portion of the main ridge. He concluded from his observations that the ridge was continuous to beyond the portion held by the enemy, *i.e.*, that it was favourable for a turning movement.

Major Collett, accompanied by two officers of the Survey, examined the country in the Spin Gawai direction. They reported that this pass was practicable, and that it seemed as if the main ridge, from the so-called Spin Gawai Plateau to the Peiwar Kotal, was continuous.

Colonel Hanna, in his determination to criticise, puts the matter thus:—"Colonel Gordon was satisfied . . . . that the southern spur . . . . was favourable for a turning movement—an opinion which proved to be well grounded." "The third reconnoitring party . . . . also brought back a favourable report; but in this case the judgment formed by Major Collett" (why omit the skilled Survey officers?), "based as it was on a bird's-eye view of a very rugged and thickly-wooded country, was vitiated by several errors."

The error of importance was that the main ridge was not smoothly continuous on this side, but was cut across, within less than half a mile of the Peiwar Kotal, by a precipitous chasm, on the left of which (if we speak of a force coming from the Spin Gawai) was the deep valley which Colonel Perkins had found to sever his spur from the main ridge.

Is there any reason why the commander should accept the correctness of the suppositions of Colonel Gordon rather than those of Major Collett? Neither, unless backed by adequate force, could push along to within half a mile of the pass, so as to see everything. The enemy's best line of retreat being by Zabardusht Kila, *i.e.*, behind his right, it might be expected he was keeping in force on the right of the pass—the side on which Colonel Gordon had reported—rather than on the left. Moreover, a turning movement on the enemy's right would, if unsuccessful, have laid open the line of retreat to hostile enterprise much more than a turning movement on his left. The bold position of the camp, also, would tend to take away suspicion from the Spin Gawai direction, for a march to the latter would mean a retrograde movement first to the village of Peiwar.

And, in fact, the Spin Gawai itself gave not much trouble, and the 1,200 leading men of the turning force who had taken it pushed on towards the pass. It is a matter of history how the regiments, with General Roberts at their head, came upon the chasm and could make no further direct progress. Colonel Hanna would apparently have had him then march his men back to camp! The whole moral effect of the progress so far would have been lost, and worse than lost. These troops had been on foot since ten o'clock the previous night, and it was now past noon. Half of them had been fighting since 6 a.m.; a retreat of 10 or 12 hours'

duration would have been a direct incentive to the enemy. Colonel Hanna says that General Roberts was now in great anxiety. This is not unnatural; so was Napoleon when things were going badly at Marengo. But these commanders were of tougher fibre than the common. General Roberts plunged off again to his right, having discovered a fairly easy route by that way towards the rear of the Afghan main position. Colonel Hanna's "observations" simply call this move: separating himself still further from his frontal column and his camp. Its moral effect is completely ignored. Uncivilised armies have always been notoriously sensitive about their line of retreat. Already General Roberts's proximity to the Kotal had probably caused unpleasant qualms to the Afghan commanders. When they saw him establish the 2nd P.I. on his side of the chasm and feel out towards his right with the rest, they concluded it was time to go. How else can the conspicuous slackening of the fire against the frontal attack be accounted for? Two of the latter's guns had certainly found the Afghan camp, and could reach it with their projectiles; but this was a piece of extraordinary and unforeseen luck, just as the chasm in front of "Picnic Hill" was a stroke of bad luck.

Thus was this strong position taken, with a loss of only 2 officers and 19 men killed and 72 wounded—less than 3 per cent. Most of the Afghan guns were captured, and great quantities of ammunition and stores, and their loss in men was great.

Our author is not content with this. In his "Etat de Situation of the Kuram Field Force on the night of the 2nd December, 1878," he looks only at the discomfort of the men, the troops furthest from the direct road being described as "bivouacking without food or shelter or warm clothing." Surely he might have added: "but on the right side of the 'almost impregnable' position"; and surely an uncomfortable night's bivouac is not an unheard-of outrage.

Further "observations" by the author read as follows:—"The march to Zabardusht Kila was as ill-advised as the turning movement by the Spin Gawai Kotal." "From a political as well as from a *general* military standpoint, General Roberts's aim, on discovering that the Peiwar was strongly held by the Afghans, should have been to facilitate the advance of the Khyber Force by keeping the largest possible number of the Amir's troops at a distance from Kabul. . . . Nor has he shown any *local* military necessity for attacking these troops in an almost impregnable position."

So he thinks the commander "should have manœuvred to draw them down from their fastnesses, as Lord Kitchener drew the Dervishes from their stronghold at Omdurman"; but he does not say where the stand should be made—whether in the condemned camping-ground near Turrai, or by retreat to the Kuram forts. A retreat like this, before the enemy had had his lesson, would have had a very bad effect throughout the whole border country; and what was to prevent the Afghans, when the time approached when the high passes would be blocked with snow, from slipping off to Kabul with their guns, if they were wanted there? By acting as he did, General Roberts had those guns, showed the Afghans that even the Peiwar Kotal was not impregnable, and produced some moral effect on the tribes in the vicinity.

Would it be no advantage, in view of a possible future advance on Kabul, to have pushed the Afghans back to the Shutargardan Pass? That pass would be at once untenable against the Kuram Force as soon as the Khyber Force got through, but not so the Peiwar Kotal.

The dragging in of Omdurman does not help the argument, as the cases are far from parallel. In the Soudan there was one "British" force and one hostile force, and Omdurman was the enemy's last stronghold. There was no doubt but that the frenzied warriors of the Mahdi would come out on our appearance, and thus deliver themselves into our hands on the open ground. Of course, Lord Kitchener let them come. but when the same general, on his way up the Nile, found the entrenched zariba, he attacked and took it. In both cases failure to do this promptly would have confirmed the hordes of waverers against us. Was General Roberts to recoil after the *contretemps* of the "Punch Bowl," and allow himself to be invested in an Afghan valley many marches from British territory? In such country and among such people you must either refrain from entering, or you must fight until no enemy remains within reach with arms in his hands.[1]

Colonel Hanna quotes Napoleon freely, but phrases of his, concise as epigrams, must be handled with greater care. Taken without consideration of the circumstances to which they apply, it would not be difficult to cite *dicta* that sound like mutual contradictions. But one dictum of the great Master of War may be taken by itself, and is eminently applicable to the case under discussion:—"In war, the moral is to the physical as three to one."

I do not suppose that Lord Roberts needs my defence or that of anyone else. My object is to warn students of war against the sort of criticism that abounds in this book—so wholesale that one is tempted to call it the very mania of criticism.

H. M. JOHNSTONE, Captain, R.E. (Ret.)
Military Lecturer to Edinburgh University.

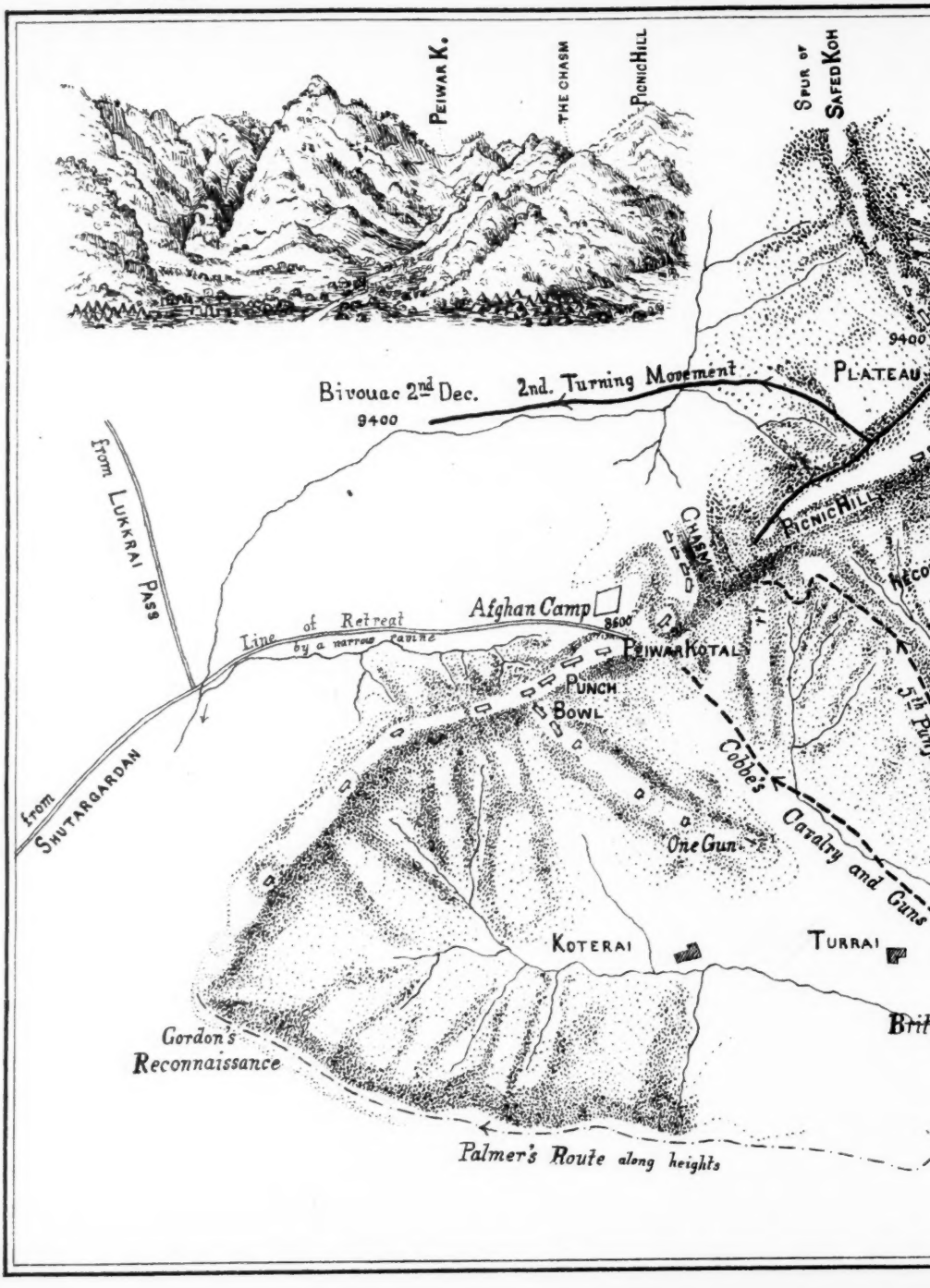
GEORGETOWN, DEMERARA.—*Query No. 7.*—What is the latest and most approved appliance for the carriage of the carbine by mounted forces; not necessarily the Service pattern?

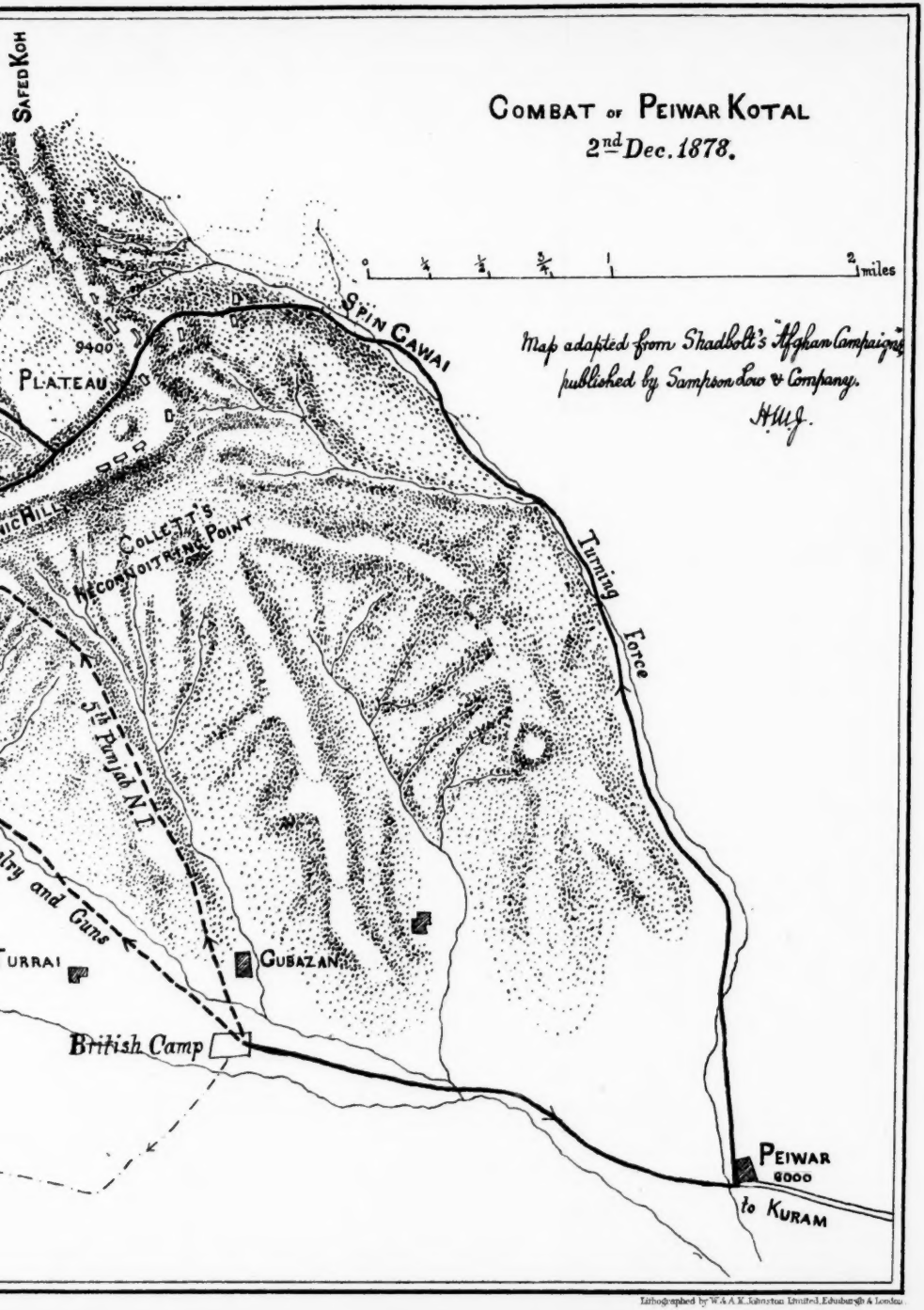
A.—After having tried every possible method, it is believed that the system now universally adopted for the mounted infantry and in use by most Imperial Yeomanry regiments of carrying the rifle and the carbine is the best. The equipment is a web sling (buff can be used, but web is better) and the ordinary Namaqua rifle-bucket. The bucket should be carried high and as close to the saddle as it will go, like a shoe-case, and the supporting straps should be shortened for this purpose. The method of carrying is very clearly laid down on pp. 23 and 24, "Mounted Infantry Training, 1904." Many British cavalry regiments and Royal Artillery carry the rifle this way. Its advantages are:—

1. The man cannot part company with his rifle.
2. He cannot lean on it in the bucket, and thereby give his horse a sore back.

---

[1] Had the Kuram Force found itself alone in front of Kabul, charged with the mission of striking the final blow, the situation would have been akin to that of Omdurman. No doubt General Roberts would then "have manœuvred to draw the enemy out" from the city, rather than commit himself to street fighting against outnumbering foes. But in both cases, if the enemy had declined to be drawn by manœuvring, both generals would doubtless have done their best to shell them out.


PEIWAR K.
THE CHASM
PICNIC HILL
SPUR OF SAFED KOH
9400
PLATEAU
Bivouac 2nd Dec.
2nd. Turning Movement
9400
from LUKKRAI PASS
CHASM
PICNIC HILL
Afghan Camp
8600
Line of Retreat
by a narrow gauge
PEIWAR KOTAL
PUNCH BOWL
from SHUTARGARDAN
Cobbe's Cavalry and Guns
One Gun
KOTERAI
TURRAI
Gordon's Reconnaissance
Palmer's Route along heights



Lithographed by W. & A. K. Johnston Limited, Edinburgh & London

3. It has all the advantage of the slung rifle without the discomfort to the man. The men of the mounted infantry state that if the sling is tight enough to prevent it bumping on the back it is the most comfortable.
4. Bucket galls are unknown.
5. The man has both hands free to ride his horse.
6. The weight is divided by the man and the horse by the bucket taking the weight of the rifle and thereby raising the pressure off the man's shoulder.
7. A man can mount and dismount without handling his rifle.

The only disadvantages are: the soldier is liable to knock his head-dress off in slinging and unslinging (but this is easily overcome), and also is liable to injury when falling with his rifle; but experience shows that the serious casualties on this account are very limited.

Colonel Patterson's equipment has been adopted for the Indian cavalry, but it is expensive, and has practically been rejected for the mounted infantry. There is, however, much in its favour.

NAVAL AND MILITARY CALENDAR.

DECEMBER, 1905.

1st (F.) 2nd Bn. Rifle Brigade arrived in India from Egypt in the "Assaye."
2nd (Sat.) Launch of first-class battle-ship "Pommern," from the Vulcan Yard, Stettin, for German Navy.
" " 4th Bn. Worcestershire Regiment arrived in Malta from Barbadoes in the "Zaria."
" " 2nd Bn. Hampshire Regiment left Malta for Bermuda in the "Soudan."
4th (M.) H.M.S. "Leviathan" paid off at Chatham from Mediterranean.
" " 7th Hussars arrived in England from South Africa in the "Dilwara."
5th (T.) H.M.S. "Leviathan" recommissioned at Chatham for Mediterranean.
" " 1st Bn. West India Regiment left Jamaica for Sierra Leone in the "Muraji."
6th (W.) H.M.S. "Mildura" arrived at Plymouth from Australian Station.
8th (F.) H.M.S. "Leviathan" left Sheerness for Mediterranean.
" " H.M.S. "Phœbe" arrived at Portsmouth from Australian Station.
9th (Sat.) 2nd Bn. King's Own Scottish Borderers left India for Aden in the "Assaye."
10th (S.) 67th Co. R. G. A. left St. Lucia for England in the "La Plata."
11th (M.) H.M.S. "Iphigenia" arrived at Plymouth from China Port.
12th (T.) Launch of 3rd Class Cruiser "Königsberg" from Imperial Dockyard, Kiel, for German Navy.
15th (F.) 2nd Bn. King's Own Scottish Borderers arrived in Aden from India in the "Assaye."
" " 3rd Bn. Rifle Brigade left Aden for England in the "Assaye."
16th (Sat.) "V" & "W" Batts. R. H. A. } left England for South Africa
10th, 26th, & 92nd Batts. R. F. A. } in the "Dilwara."
" " 2nd Bn. Hampshire Regiment arrived in Bermuda from Malta in the "Soudan."
19th (T.) 3rd Bn. Royal Fusiliers left Bermuda for South Africa in the "Soudan."
" " 1st Bn. West India Regiment arrived in Sierra Leone from Jamaica in the "Muraji."
22nd (F.) A Treaty was signed between Japan and China.
" " 2nd Bn. West India Regiment left Sierra Leone for Jamaica in the "Muraji."

23rd (Sat.) 67th Co. R. G. A. arrived in England from St. Lucia in the "La Plata."
28th (Th.) 2nd Bn. East Yorkshire Regiment left England for India in the "Ionian."
30th (Sat.) H.M.S. "Mildura" paid off at Chatham.
" " H.R.H. The Prince of Wales presented new Colours to the 1st. Bn. King's Own (Royal Lancaster Regiment) at Calcutta.
31st (S.) 3rd Bn. Rifle Brigade arrived in England from Aden in the "Assaye."

FOREIGN PERIODICALS.

NAVAL.

ARGENTINE REPUBLIC. — *Boletin del Centro Naval.* Buenos Aires: October, 1905.—"Lessons of the Russo-Japanese War as affecting Naval Construction." "Theory and Practice in the Generation of Steam." "Geodetic Obstacles in the Construction of the Simplon Tunnel." "A Visit to Pola." "Foreign Naval Notes."

November, 1905. — "Necessary Collaboration." "Range-Finders (1903-1904 Models)." "Protection of the Mercantile Marine." "Theory and Practice in the Generation of Steam" (*continued*). "The Motive of the Russo-Japanese War." "Refrigerating Installations on board Ships." "A Mechanical Appliance to assist Methodical Stoking in Marine Boilers." "Foreign Naval Notes."

AUSTRIA-HUNGARY. — *Mittheilungen aus dem Gebiete des Seewesens.* No. 1. Pola: January, 1906.—"The Steam Trials of the new Battle-ship 'Erzherzog Karl' and the new First-class Armoured Cruiser 'St. Georg'" "The Manœuvres of the Strengthened French Mediterranean Squadron in 1905." "The Question of the Rifling of Ships' Guns." "On Submarine-boats." "Foreign Naval Notes."

BRAZIL. — *Revista Maritima Brazileira.* Rio de Janeiro: August, 1905.—"Perils of the Sea." "Marine Boilers." "An International Signal Code." "Foreign Naval Notes."

CHILI.—*Revista de Marina.* Valparaiso: October, 1905.—"Rear-Admiral Don Luis A. Silva Palma." "Memorandum on Naval Construction." "Service Life of the 12-inch Gun." "The Sixth Cruise of the 'Baquedano'" (*concluded*). "Some Details of the Battle of Tsushima." "Foreign Naval Notes."

FRANCE.—*Revue Maritime.* Paris.—Has not been received.

Questions Navales: Revue Générale de la Marine. Paris: 10th December, 1905.—"Camille Pelletan, Minister of Marine." "The Problem of Speed and Armament." "Some Considerations on the Medium Artillery in Ships of War." "The Report of M. Charles Bos on the Naval Budget." "The Continuance of the Discussion on the new Mercantile Marine Act." "The Great Constructing Houses of Automobile

Motors." "The Claims of the Officers of the Fleet." "The Administrative Organisation of the Works Department." 25th December. — "Again the Naval Programme." "The Continuation of the Discussion on the new Mercantile Marine Act." "To the Committee of Ship-owners." "The great Constructing Houses of Automobile Motors." "The 8th International Automobile Exhibition." "On the Necessity for Creating a new Title of Honorary Rear-Admiral." "The True Objective of our Ships of War and the Defence of our Colonies." "The Administrative Organisation of our Works Department."

La Marine Française. Paris: November-December, 1905.—"The Strike at the Dockyards." "The German Offensive and International Law." "The Decadence of our Mercantile Marine: The Remedies." "The Weak Point of England: The Industrial Pressure in the English Indies." "Extra-Parliamentary Committee on the Navy:—History of the Creation of *Points d'Appui*; their actual Condition: 1. Those in the Colonies, Saïgon, Dakar, Diégo-Suarez, Fort de France; 2. Those in Algeria, Tunis, and Bizerta" (*concluded*).

Le Yacht. Paris: 2nd December, 1905.—"The Organisation of the Ships in the Reserve" (*concluded*). "Yachting Notes." "The German Turbine Cruiser 'Lubeck.'" "The Mercantile Marine Act." 9th December.—"The Report on the Naval Budget." "Yachting Notes." "The new U.S. Gun-boats 'Dubuque' and 'Paducah.'" 16th December. —"The Report on the Naval Budget" (*continued*). "Yachting Notes." "The New Cunarders." "A Sea-going or Coast-defence Fleet." 23rd December.—"The New German Naval Programme." "Yachting Notes." "The New Austro-Hungarian Armoured Cruiser 'St. Georg.'" 30th December.—"The Report on the Naval Budget" (*continued*). "Yachting Notes." "The New German Battle-ship 'Schwaben.'" "Battleships and Armoured Cruisers."

Le Moniteur de la Flotte. Paris: 2nd December, 1905.—"Naval Reforms." "*A propos* of Firing Instruction with Light Guns." "The Navy in Parliament." "In the Dockyards." "The Rehabilitation of Medium Artillery." "The Navy in Parliament." 16th December.— "The One and the Other." "The Navy in Parliament." 23rd December.—"The One but Not the Other." "The Navy in Parliament." "The Naval Programme." 30th December.—"The Navy in 1905." "Battleships or Armoured Cruisers." "In Morocco."

GERMANY.—*Marine Rundschau.* Berlin: January, 1906.—"Peace Preparations and the Approach of War." "Fundamental Artillery Questions for the Armament of Ships." "A Statement of Admiralty Policy." "Report of M. C. Bos on the French Naval Budget." "The 7th Principal Meeting of the Ship-building Association." "Foreign Naval Notes."

ITALY. — *Rivista Marittima.* Rome: December, 1905. — "Military Operations and Naval Preponderance (Callwell)." "Mensing's Deep-Sea Gauge." "The 10th International Navigation Congress at Milan" (*concluded*). "The Anglo-Neapolitan Blockade of the Tuscan Sea: Nelson and the French Occupation of the Grand Duchy." "Foreign Naval Notes."

PORTUGAL. — *Revista Portugueza, Colonial e Maritima.* Lisbon: November, 1905.—"On Compass Deflectors." "Coffee from the Mhambane District." "A Japanese Embassy to Europe in the 16th Century." "Foreign Naval Notes."

SPAIN.—*Revista General de Marina.* Madrid: December, 1905.—"The 'Cardinal Cisneros.'" "Charts." "The Battle of Trafalgar" (*continued*). "The Sanitary Condition of the Fleet in 1904." "International Convention at Brussels on Collisions and Salvaging." "The Telekino." "The Naval Lessons of the War." "The Congress of Naval Architects in London, 19th-21st July, 1905." "Four Years of Experience with Belleville Boilers." "An Interview with Rodjestvensky." "Mr. Robert Whitehead." "The Kaiser's Diagrams." "Foreign Naval Notes."

MILITARY.

ARGENTINE REPUBLIC.—*Revista del Boletin Militar del Ministerio de Guerra.* Buenos Aires: November, 1905.—Has not been received.

AUSTRIA-HUNGARY.—*Danzer's Armee-Zeitung.* Vienna: 7th December, 1905.—"Under the Curse of the Irredenta." "Three Head-Quarters." 14th December.—"Addenda to the 100th Anniversary of the Battle of Austerlitz." "Training Schools for Non-commissioned Officers." "Sobieski's Share in the Battle raising the Siege of Vienna, 1683." "On the Japanese System of Espionage." 21st December.—"Addenda to the 100th Anniversary of the Battle of Austerlitz" (*continued*). "The Success and Limitations of Shrapnel." "A Main Position or Defensive Lines?" "From the Italian Army." "A few Facts about the Efficiency of the Cavalry in the Russo-Japanese War."

Mittheilungen über Gegenstände des Artillerie- und Genie-Wesens Vienna: December, 1905.—"Supplements to the Study of the Fighting round Port Arthur." "Theoretical Review of Practice Shooting." "New Phenomena in Steam Machines and Motor Construction."

Organ der Militär-wissenschaftlichen. Vereine. Vienna. Vol. LXXI. Part 4.—"On the Day of Mollwitz, 10th April, 1741." "On the Conduct, Security, and Defence of Gun Ammunition, and Similar Wagon Transports." "Cessation of Operations, 1877-78 and 1904-05." "The Surgical Importance in War of Modern Fire-arms."

BELGIUM.—*Bulletin de la Presse et de la Bibliographie Militaires.* Brussels: 30th November, 1905.—"The German Imperial Manœuvres in 1904" (*concluded*). "The French War Budget for 1905."

15th December, 1905.—"The French War Budget for 1905" (*concluded*). "The Efficiency of Modern Field Artillery Fire." "The English Regulation on Combined Tactics." 31st December.—Has not been received.

FRANCE.—*Revue du Cercle Militaire.* Paris: 2nd December, 1905.—"A Page from the History of the Tonkin Expedition." "The Swiss Grand Manœuvres in 1905" (*concluded*). 9th December.—"Small Units

in Action : Formerly and To-day." "The New German Infantry Musketry Regulation." "A Page from the History of the Tonkin Expedition" (*concluded*). 16th December.—"The Russian Effectives in the Far East and Trans-Siberia." "The One Year's Period of Service and the German Press." "Small Units in Action : Formerly and To-day" (*continued*). "The New German Infantry Musketry Regulations"(*continued*). 23rd December. —"The New German Infantry Musketry Regulations" (*continued*). "Small Units in Action : Formerly and To-day" (*continued*). "Medical School of Application for Colonial Troops." 30th December. — "General Saussier." "The New German Infantry Musketry Regulations" (*concluded*). "Small Units in Action : Formerly and To-day" (*continued*).

Journal des Sciences Militaires. Paris : November, 1905. — "The Rheinbaben Division on the 15th August, 1870." "Strategic Criticism of the Franco-German War" (*continued*). "Interior Economy." "Reflections on China : Her Spirit, her Army, her Future." "Q.F. Field Artillery" (*continued*). "What should be retained from the Russo-Japanese War" (*continued*). "Comparative Study of the French and German Field Service Regulations" (*continued*). "The *Rôle* and the Condition of the Non-commissioned Officer necessary for the Two Years' Period of Service."

December, 1905.—"Strategic Criticism of the Franco-German War" (*continued*). "Napoleon's Strategic Methods" (*concluded*). "Study of Infantry Regulations." "The Russian Cavalry during the Russo-Japanese War" (*concluded*). "Three Days' Operations carried out by an Infantry Division and a Cavalry Brigade covering the Siege of Belfort" (*concluded*). "Reflections on China" (*concluded*).

Le Spectateur Militaire. Paris : 1st December, 1905.—"The Russo-Japanese War" (*continued*). "The Conquest of Ménabé" (*continued*). "The Russo-Turkish Campaign of 1877-78" (*continued*). "The War in Morocco" (*continued*). 15th December.—"The Russo-Japanese War" (*continued*). "The Russo-Turkish Campaign of 1877-78" (*continued*). "The War in Morocco" (*concluded*). "The Conquest of Ménabé" (*continued*).

Revue d'Artillerie. Paris: October, 1905.—"Coast Telemetre with large Horizontal Base, invented by the Russian Colonel, de la Launitz." "Progress of Aerial Navigation."

November, 1905.—"Progress of Aerial Navigation" (*continued*). "On the Employment of the 75-mm. Gun in the Field." "Manufacture of Unsoldered Tubes by the 'Louvreil' Process."

December, 1905.—Has not been received.

Revue de Cavalerie. Paris : November, 1905.—"The Cavalry in the Grand Eastern Manœuvres in 1905." "Letters to Plok" (*continued*). "Military Equitation : Method of Instruction applicable to the Two Years' Period of Service." "Cavalry Service in the Field" (*concluded*). "Q.F. Horse Artillery."

December, 1905.—Has not been received.

Revue Militaire des Armées Etrangères. Paris: December, 1905.—"The Imperial Austro-Hungarian Manœuvres in Bohemia in 1905." "Sketch of the Portuguese Army in 1905."

Revue d'Histoire. Paris : December, 1905.—"The Campaign in 1794 with the Army of the North" (*continued*). "The Race for Benavente." "The War of 1870-71" (*continued*).

GERMANY.—*Militär-Wochenblatt.* Berlin: 2nd December, 1905. — "A Hundred Years Ago: Austerlitz." "The Grand Manœuvres of the French Army in 1905." "Two Edicts of the Russian Minister of Marine." 5th December.—"The Grand Manœuvres of the French Army in 1905" (*continued*). "Curb-Bits." 7th December.—"The Dessau Muster Roll of 1729." "The Bredow Army Lists and Muster Rolls." "The Grand Manœuvres of the French Army in 1905" (*concluded*). 9th December.—"Jubilee of the 2nd Hannoverian Uhlan Regiment, No. 14." "On the Question of Rapidity of Infantry Fire." "A few Details regarding the Japanese Horse." 12th December.—"The Fight against Shield-protected Batteries." "A Great General Staff for the English Army." "Intelligence of the Austro-Hungarian Forces." 14th December.—"Retreat of the Archduke Ferdinand from Ulm to Bohemia, October, 1805." "The Latest Efforts for Protection of Field Artillery." 16th December. — "Considerations on the Battle of Mukden." "Retreat of the Archduke Ferdinand from Ulm to Bohemia" (*concluded*). "Infantry Fire Tactics." "Intelligence from the Belgian Army." 19th December.—"Jubilee of the Crown Prince Guards Regiment." "The end of the Autumn Campaign of 1813." 21st December.—"Two Observations on Moltke's Strategy in 1866." "The Great Elector." 23rd December.—"Foreign Infantry Musketry Experiments." "The American Soldier in the Philippines." "An Italian Attack on Italian Field Artillery *Matériel.*" 28th December.—"The Battle at Beaune-la-Rolande." "The Infantry Attack." "Foreign Infantry Musketry Experiments" (*concluded*). 30th December.—"On the End of the Year." "The Battle of Beaune-la-Rolande" (*concluded*). "The English Field Artillery Regulations."

Internationale Revue über die gesamten Armeen und Flotten. Dresden: December, 1905.—"Military and Naval Intelligence from Abyssinia, Austria-Hungary, Belgium, Bulgaria, France, Germany, Great Britain, Italy, Japan, Montenegro, Norway, Portugal, Roumania, Russia, Spain, Switzerland, Turkey, and the United States." *Supplement 68.*—"The Bulgarian Armed Forces." *French Supplement 81.*—"Moltke." "Artillery and the Liège Exhibition in 1905." "Annual of Germany's Maritime Interests for 1905." "Power of Personality in War."

Jahrbücher für die Deutsche Armee und Marine. Berlin: December, 1905.—"The German Passage of the Moselle in 1870, according to French Accounts" (*concluded*). "The French Infantry Musketry Regulations of the 31st August, 1905." "On the History of the Russo-Japanese War." "German and French Barrel-recoiling Field Guns." "Service Horses with the Dismounted Branches of the Service." "The Ballistic Curve."

Neue Militärische Blätter. Berlin: October, 1905. No. 17.—"Germany as a Sea Power." "Field Howitzers in Action and in Fortresses." "The Caucasus as a Base of Operations, especially against India." "Fulcrum of the British World-Power."

November, 1905. No. 18. — "The War of 1805 in Germany." "Austro-Hungarian Mountain Artillery." "The Caucasus as a Base of Operations, especially against India" (*continued*). "A Prussian Opinion on Russian Military Administration during the late War." No. 19.—"The War of 1805 in Germany" (*continued*). "The English Autumn Manœuvres." "The Caucasus as a Base of Operations, especially against India." "The Moltke Memorial in Berlin." "Socialistic Movement against the Army in Italy, Switzer-

land, and Germany." "A French Opinion on the German Imperial Manœuvres." No. 20.—"Modern Writings on Naval Warfare." "The War of 1805 in Germany" (*continued*). "Improvement of the Austrian Landwehr." No. 21-22. — "The Battle of Leuthen." "Submarines in Germany and France." "The War of 1805 in Germany" (*continued*). "Modern Writings on Naval Warfare" (*concluded*). "Artillery *Matériel* at the Lüttich International Exhibition."

ITALY.—*Rivista di Artiglieria e Genio.* Rome: October, 1905. — "General Garneri." "The Attack and Defence of Strong Naval Ports." "Some *Data* in regard to the Wall constructed in the Castle of San Angelo of Armoured Cement." "Observation Stations for Artillery Firing." "Importance of Verona in the History of Fortification." "A Small Instrument for Registering the Effect of Firing from Coast Batteries." "Foreign Military Notes."

Rivista Militare Italiana. Rome: December, 1905.—"The Military Levy from the Moral Point of View." "Some Suggestions on the Moral Instruction of a Company by its Captain" (*concluded*). "On the Use of Field Fortifications with Modern Fire-arms." "On the *Matériel* of Field Artillery." "The Moral Factor of the Japanese Army in the Russo-Japanese War." "Do his Compatriots born in 1885 know anything of Virgil." "Foreign Military Notes."

PORTUGAL.—*Revista de Engenheria Militar.* Lisbon: October, 1905.—"General Report on the Works carried out in 1904-05." "Military Recognition of the Portuguese Frontier between the Districts of Lourenço Marquez, Gaza, Transvaal, and Swaziland, and the Establishment and Provision of Police Posts during the Anglo-Boer War" (*continued*).

Revista de Infanteria. Lisbon: December, 1905.—"Infantry Cadres." "Military Administration." "Sergeants." "The Pay of Officers in the Colonies." "Two Opposite Schools." "The Entry of Recruits." "Foreign Military Notes."

RUSSIA.—*Voïénnyï Sbórnik.* St. Petersburg: December, 1905.—Has not been received.

SPAIN.—*Memorial de Ingenieros del Ejército.* Madrid: November, 1905.—"Studies in Fortification: The Moat" (*concluded*). "Study for a Bridge of Armoured Cement" (*concluded*). "The Eclipse of the Sun, 30th August, 1905: The Observations made at Sigüenza by the Military Engineers."

Revista Técnica de Infantería y Caballería. Madrid: 1st December, 1905. — "Campaign of the Higuera." "The Military Loan Office." "Cavalry and Musketry Instruction." "Colonel Christóbal de Mondragón" (*continued*). 15th December, 1905.—"Politics and the Army." "Moral Influence of Legislation on Retired Officers." "Colonel Christóbal de Mondragón" (*continued*). "Cavalry and Musketry Instruction" (*continued*). "Military Review of the Year."

Revista Científico-Militar y Biblioteca Militar. Barcelona: December, 1905.—"A Point of Organisation." "Some Lessons from the Late War." "Lamentations, III." "A Letter of Dragomiroff." "Japanese Soldier's Pocket-book."

SWITZERLAND.—*Revue Militaire Suisse.* Lausanne: December, 1905.—"At the Grand Army Manœuvres at Champagne" (*concluded*). "The Russo-Japanese War." "The Problem of Sedan" (*concluded*). "Revision of the Swiss Infantry Drill Regulations."

UNITED STATES.—*The United Service.* New York: December, 1905.—"The Strategy and Tactics of the Russo-Japanese War." "Pekin, August, 1900." "Official and Social Military Etiquette." "European Theory baffled in the Russo-Japanese War." "Our Contemporaries." "Service Salad." "George Peck, Medical Director, U.S.A."

NOTICES OF BOOKS.

The Development of the European Nations, 1870-1900. By J. HOLLAND ROSE. London: Archibald Constable & Co., Ltd.

This is not only a very interesting, but in many respects a very valuable book. There are few studies more absorbing than that of contemporary history; than that of learning something of the methods—often ignoble, occasionally grandiose, but generally instinct with patriotism—whereby the younger Nations have elbowed their way to the front while their elders have struggled to preserve their pride of place. We live in an age when nothing remains for long hidden, when sooner or later the secrets of all hearts—and even of many Cabinets—are revealed, when diplomats publish prematurely their reminiscences and the political lives of great Ministers are set out in the fullest detail. In the preparation of a book descriptive of the development of the European Nations, Mr. Holland Rose has had no lack of material; one might almost say that he has ransacked all the chancelleries of Europe to give his readers the history of the last thirty years of the 19th Century—of the rise of Germany, the founding of the French Republic, the making of Bulgaria, and of the methods of statecraft which the European nations have employed in the attempt to solve or to silence the two great questions, which, like the poor, are always with us: the Eastern and the Central Asian questions. Mr. Holland Rose has no very high opinion of political morality; but there is, unfortunately, much justice in the following remarks at the close of the chapter on "The Balkan Settlement":—"It would be premature to inquire which of the European Powers must be held chiefly responsible for the toleration of the hideous massacres of the Armenians in 1896-97, and the atrocious misgovernment of Macedonia, by the Turks. All the great Powers who signed the Berlin Treaty are guilty; and the State which framed the Cyprus Convention is doubly guilty, so far as concerns the events in Armenia. . . . The Treaty of Berlin, which might have inaugurated an era of good government throughout the whole of Turkey if the Powers had been true to their trust, will be cited as damning evidence in the account of the greatest betrayal of a trust which modern history records."

Mr. Holland Rose has evidently taken immense pains with his descriptions of the chief events of the numerous campaigns with which the pages of the history of contemporary Europe are so plentifully strewn, and he has succeeded in gathering his facts from a rich abundance of sources and in presenting them in a narrative which is admirably epitomised.

Future historians will perhaps agree with the writer of this book that on many notable occasions during the last quarter of the 19th century, "British policy was provokingly undecided and timidly passive," while the following remarks are worth quoting in this connection: "It is the most elementary of blunders to suppose that the cause of peace is furthered by a timid policy. . . . Peace is best assured by the steady maintenance of a course of conduct which, springing from a due sense of self-respect, inspires respect in others. If Aristotle in his survey of the virtues had included love of peace, we venture to think that he would have placed it as a mean between two extremes—an overbearing disregard of the claims of others, and a proneness to make graceful concessions. Using the slang of to-day, he might have assigned it a middle place between "Jingoism" and "peace at any price."

It is to be hoped that this book may be widely read by all classes of the people; it is more than an interesting history of a period full of incident, it is a story of the political problems which men have tried to solve while some of the solutions have only proved to the detriment of mankind. It is the general public who should know these things if, as the author says, "the responsibility for the public weal rests more with the masses of the people than with its officials."

PRINCIPAL ADDITIONS TO LIBRARY, DECEMBER, 1905.

Memoir of Sir Henry Keppel, G.C.B., Admiral of the Fleet. By Sir Algernon West. 8vo. 7s. 6d. (Smith, Elder & Co.) London, 1905

La Lutte pour l'Empire de la Mer. By Rene Daveluy. 8vo. (Presented.) (Augustin Challamel.) Paris, 1906.

La Flotte Nécessaire. By Le Contre-Amiral F. E. Fournier. 8vo. 2s. 6d. (Berger-Levrault et Cie.) Paris, 1896.

The Russo-Turkish War, 1877. By Major F. Maurice. 8vo. 5s. (Presented.) (Swan Sonnenschein & Co., Ltd.) London, 1905.

Regimental Standing Orders for the Guidance of the Royal Newfoundland Companies. By Lieut.-Colonel Robert Law, K.H., Commanding. 8vo. (Presented.) St. John's, Newfoundland, 1850.

Regulations for the Equipment of the Army (Auxiliary Forces). Part 2. Section XVIII. Volunteers. Official. 8vo. (Presented.) (Harrison & Sons.) London, 1905.

Military Hygiene. By Lieut.-Colonel R. Caldwell, R.A.M.S. 8vo. (Presented.) (Baillière, Tindall & Cox.) London, 1905.

Description in German of the Lipari and Ionian Islands, with Bougie and some of the other North African Ports. By H.I.M. ARCHDUKE LUDWIG SALVATOR OF AUSTRIA. 16 vols. F'cap fol. (Presented.) (H. Mercy.) Prague, 1895.

Handbook for the 5-inch B.L. Howitzer. Official. 8vo. 1s. (Presented.) London, 1905.

Infanterie-Telegraphenpatrouillen. By Colonel L. SCHLEYER. 8vo. 1s. 9d. (W. L. Seidel & Sohn.) Vienna, 1905.

A History of the Hyderabad Contingent. By Major R. G. BARTON. 8vo. 4s. 6d. Calcutta, 1905.

With the Abyssinians in Somaliland. By Major J. W. JENNINGS and C. ADDISON. 8vo. 10s. 6d. (Presented.) (Hodder & Staughton.) London, 1905.

A Week after Ibex from Gib. By Major G. F. T. LEATHER. Crown 8vo. (Presented.) (St. George's Press.) Dover, 1905.

Aperçu de Tactique Navale. By Le Commandant H. VIGNOT. 8vo. 1s. 8d. (Presented.) Paris, 1905.

Standing Orders of the 5th (Royal Irish) Lancers. 8vo. (Presented.) (Gale & Polden.) Aldershot, 1904.

The First Romanovs. By R. NISBET BAIN. 8vo. 12s. 6d. (Archibald Constable & Co.) London, 1905.

The Russian Court in the Eighteenth Century. By FITZGERALD MOLLOY. 2 vols. 8vo. 24s. (Hutchinson & Co.) London, 1905.

In the Uttermost East. By C. H. HAWES. 8vo. 16s. (Harper Bros.) London, 1903.

THE BARR AND STROUD RANGEFINDER, F.Q. TYPE, 9 FT (2·74 METRE) BASE.

ON MOUNTING NM TYPE.

FOR USE ON BOARD BATTLE-SHIPS AND CRUISERS.

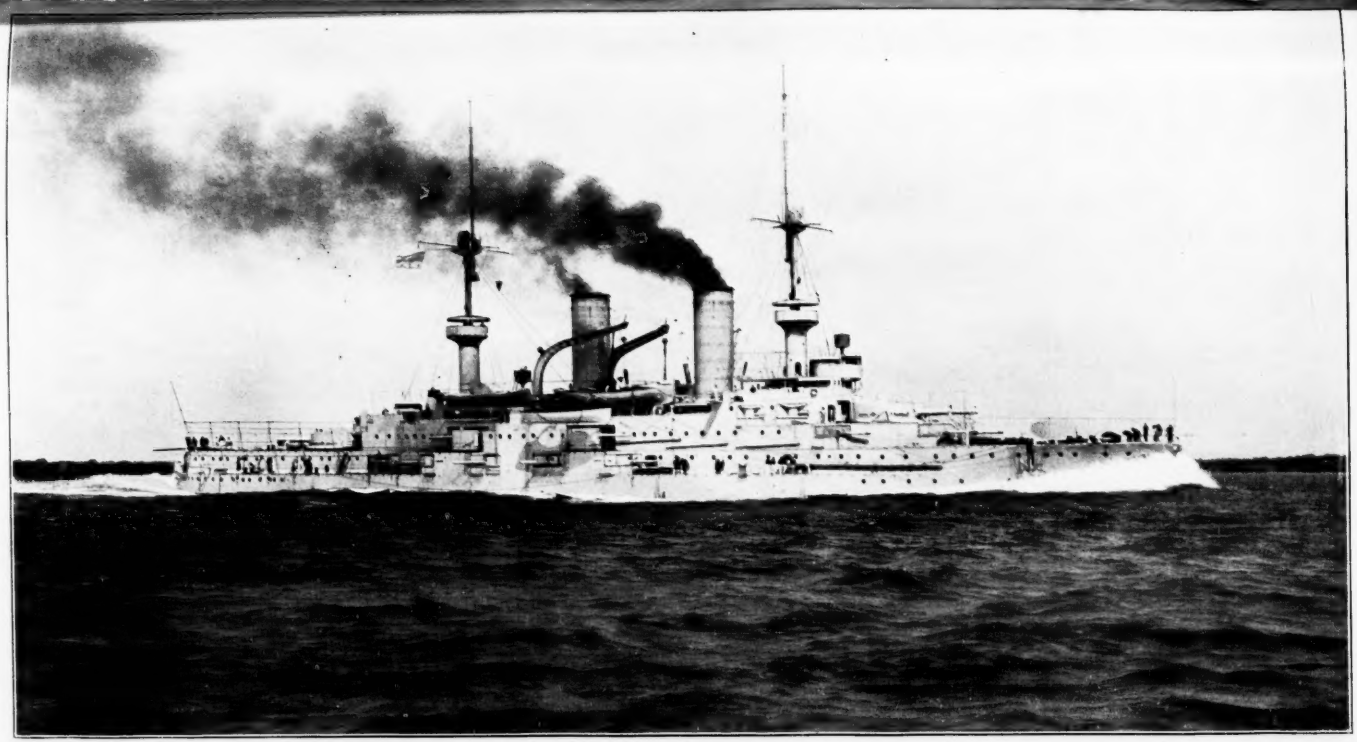
The Rangefinder is mounted on roller bearings, and controlled in altitude by the observer's left hand. It is controlled in azimuth by the breast piece, which is mounted on a bracket. The bracket runs on ball-bearings.

The mounting can be raised or lowered to suit the height of the observer, and is constructed entirely of gun-metal.

This Rangefinder is also supplied on a mounting suitable for use in fortresses.

Approximate uncertainty of observation :—

3	yards at	2,000	yards,
20	,,	5,000	,,
85	,,	10,000	,,



THE GERMAN FIRST-CLASS BATTLE-SHIP "MECKLENBURG," 11,900 Tons; 15,000 I.H.P.; Speed, 18 Knots.

ARMOUR PROTECTION.—Complete 9-inch belt of Krupp steel, tapering to 4 inches at extremities. Main barbettes, hoods and hoists, 10 inches; Redoubt and central battery, 5·5-inch; casemates and secondary turrets, 6-inch; hoists for 5·9-inch Q.F. guns, 3-inch; conning tower, 10-inch; signal tower (aft) 4-inch; protective deck, 3-inch on slopes, 1·5-inch on flat.

ARMAMENT.—Four 9·4-inch 40-calibre guns in pairs in barbettes; eighteen 40-calibre Q.F. 5·9-inch guns, eight in battery, two in casemates on main deck, four in casemates and four in turrets on upper deck; twelve 3·4-inch Q.F. guns and 12 small machine guns, with 6 torpedo-tubes, one submerged in stern, four submerged on broadside and one above water astern.

J. J. K. & Co., Limited, London.